THE NEWS LETTER
OF THE
BUREAU OF PUBLIC ROADS

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ADDRESS OF SECRETARY OF AGRICULTURE, WM. M. JARDINE

BEFORE THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS PINEHURST, N. C., NOVEMBER 9, 1926.

THE DECADE JUST PAST HAS BEEN MARKED BY GREATER IMPROVEMENT OF THE ROADS OF THE UNITED STATES AND A LARGER INCREASE IN HIGHWAY TRANSPORTATION THAN ANY OTHER IN THE HISTORY OF THE COUNTRY. AS, FROM OUR PRESENT POSITION, WE LOOK BACK UPON THE WAY WE HAVE COME IN THESE TEN YEARS THE PROGRESS SEEMS TRULY REMARKABLE. COINCIDENTALLY THIS SAME PERIOD COVERS THE SPAN OF THE FEDERAL AID ROAD LEGISLATION AND ITS ADMINISTRATION UNDER THE DEPARTMENT OF AGRICULTURE.

AS WE ENTERED THE DECADE IN 1916 THERE WERE LESS THAN TWO AND A HALF MILLION MOTOR VEHICLES IN THE ENTIRE COUNTRY, AND LESS THAN 73,000 OF THESE WERE REGISTERED AS MOTOR TRUCKS. TO-DAY THE TRUCKS ALONE ARE MORE NUMEROUS THAN ALL MOTOR VEHICLES AT THAT TIME, AND THE TOTAL HAS DOUBLED AND TWICE REDOUBLED IN THE TEN-YEAR PERIOD.

IN 1916 THERE WERE APPROXIMATELY 277,000 MILES OF SURFACED ROADS IN THE ENTIRE COUNTRY, ONLY A SMALL PERCENTAGE OF WHICH WERE OF THE TYPES NOW REGARDED AS ADEQUATE FOR MOTOR VEHICLE TRAFFIC. TO-DAY THE MILEAGE OF SURFACED ROADS IS NEARLY IF NOT QUITE TWICE AS GREAT AS IT WAS 10 YEARS AGO AND MORE THAN 100,000 MILES ARE IMPROVED WITH TYPES OF SURFACE MORE SATISFACTORY FOR SERVICE THAN WATERBOUND MACADAM--A RECORD OF PROGRESS THE MORE REMARKABLE IF IT IS REMEMBERED THAT DURING THE THIS SAME TEN-YEAR PERIOD IT HAS BEEN NECESSARY TO RECONSTRUCT A VERY LARGE PART OF THE MILEAGE PREVIOUSLY CONSTRUCTED.

TEN YEARS AGO THERE WERE ONLY FIVE STATES IN WHICH THERE WAS AS MUCH AS A SINGLE IMPROVED TRANSSTATE HIGHWAY. THEY WERE MASSACHUSETTS, CONNECTICUT, NEW YORK, NEW JERSEY, AND MARYLAND - ALL EASTERN STATES AND ALL OF THAT SMALL GROUP IN WHICH THE MOVEMENT FOR BETTER HIGHWAYS HAD BEEN BEGUN IN THE NINETIES. TO-DAY 25 STATES HAVE IMPROVED HIGHWAYS CONTINUOUS FROM BORDER TO BORDER IN AT LEAST ONE DIRECTION AND 16 OF THESE HAVE COMPLETED SUCH TRANSSTATE ARTERIES IN TWO DIRECTIONS.

IN 1916 THERE WERE 16 STATES IN WHICH THERE WAS NO STATE HIGHWAY DEPARTMENT THAT COULD BE RECOGNIZED AS COMPETENT TO ADMINISTER THE CONSTRUCTION OF FEDERAL-AIDS ROADS, AND THEY HAD NO SEMBLANCE OF A PLAN FOR THE DEVELOPMENT OF A STATE SYSTEM OF HIGHWAYS. EVEN IN THOSE STATES IN WHICH THE RECENTLY CREATED

State agency was endeavoring to introduce scientific and business-like methods of highway improvement there were only a few in which a connected State highway system had yet been clearly conceived. To-day there is in every State a definitely designated State highway system to the improvement of which the State governments are applying their resources.

These remarkable changes, occurring within the brief period of 10 years, distinguish the last decade as the most important in highway history; but the developments which are destined to have the most far-reaching influence upon the future are the establishment of the Federal-aid policy and the elaborate and productive researches which have been carried out by the Federal and State departments and other agencies.

Of the Federal-aid policy it may be said that the 56,000 miles of road which have been improved under it are of less significance than the principles upon which the policy is founded, and which are thus given nation-wide importance.

It is a first principle of the Federal-aid policy that all roads, by the nature of their traffic, are stamped as of local, State or interstate importance, and that this fact should be recognized in the administration and financing of their improvement. The law has, therefore, required the designation of a definite Federal-aid highway system, including those roads of interstate importance in the improvement of which the national and State governments may properly combine their efforts.

From the first it has been required that the State should, itself, participate directly with the Federal agency through a department of its government competent to assume the responsibility. In retrospect, this provision of the law appears as, perhaps, the most important Federal contribution, responsible, as it doubtless was for the creation and strengthening of highway departments in many of the States. It is a notable fact that these organizations are among the most efficient of State institutions, and it is certain that to them must be ascribed the largest measure of credit for the remarkable improvement of our highways. There is gratification, also, in the splendid cooperation which has at all times marked their relations with the Bureau of Public Roads.

THE IMPORTANCE OF THE CONTRIBUTIONS TO ENGINEERING SCIENCE WHICH HAVE RESULTED FROM THE RESEARCH AND EXPERIMENTATION THAT HAS BEEN SO VIGOROUSLY CONDUCTED SINCE 1920 CAN SCARCELY BE OVER-EMPHASIZED. THE BATES ROAD TESTS BY THE ILLINOIS DEPARTMENT, THE PITTSBURG, CALIFORNIA, EXPERIMENTS AND THE VARIOUS TESTS OF THE BUREAU OF PUBLIC ROADS ARE KNOWN AND STUDIED THROUGHOUT THE WORLD. BY THE GENERAL ADOPTION OF THE THICKENED-EDGE SECTION, A DIRECT RESULT OF THIS RESEARCH, THE PUBLIC HAS ALREADY BENEFITED THROUGH INCREASED SERVICE AND LOWER COSTS, AND THE SAVING WILL GO ON AS LONG AS CONCRETE ROADS ARE BUILT.

AS THE RESULT OF A SINGLE STUDY COMPLETED RECENTLY BY THE BUREAU OF PUBLIC ROADS BY WHICH IT HAS BEEN DEMONSTRATED THAT BRICK OF 2 AND $2\frac{1}{2}$ INCHES IN THICKNESS MAY BE USED TO GIVE THE SERVICE FOR WHICH 3 AND 4-INCH BRICK HAVE PREVIOUSLY BEEN USED, IT IS ESTIMATED THAT LARGE ANNUAL SAVINGS ARE POSSIBLE. A FEW THOUSAND DOLLARS AND THE EARNEST AND DEVOTED WORK OF THREE OR FOUR OF THE BUREAU'S ENGINEERS FOR LESS THAN A YEAR HAVE THUS RETURNED TO THE TAXPAYERS OF THE STATES AND MUNICIPALITIES, WHEREVER BRICK PAVEMENTS ARE BUILT, MANY TIMES THE EXPENDITURE IN POTENTIAL COST REDUCTION.

SIMILARLY THE BUREAU'S STUDIES OF GRADING AND CONCRETE PAVEMENT OPERATIONS HAVE POINTED THE WAY TO AN IMPROVEMENT IN THE EFFICIENCY OF SUCH OPERATIONS AS A RESULT OF WHICH IT HAS BEEN FOUND POSSIBLE IN SOME CASES WITH THE SAME EQUIPMENT TO INCREASE PRODUCTION BY 50 TO 100 PER CENT.

THE RESULTS OF THESE STUDIES ARE IMMEDIATELY APPARENT IN REDUCED COSTS AND ENHANCED EFFICIENCY. IN OTHER CASES, AS IN THE STUDIES OF SOILS TO DETERMINE THEIR CHARACTERISTICS AS HIGHWAY SUBGRADES AND IN THE VARIOUS INVESTIGATIONS OF THE EFFECT UPON ROADWAYS OF TRAFFIC AND CLIMATIC INFLUENCES THE OBJECT SOUGHT IS COMPLICATED BY SO MANY VARIABLE FACTORS THAT THE STUDIES MUST BE LONG CONTINUED BEFORE DEFINITE RESULTS MAY BE EXPECTED. BUT THESE RESEARCHES, PENETRATING AS THEY DO TO THE VERY FUNDAMENTALS OF HIGHWAY DESIGN, ARE LIKELY IN THE END TO BE THE MOST VALUABLE OF ALL, AND IT IS NOT ONLY POSSIBLE BUT PROBABLE THAT FUTURE GENERATIONS OF ROAD BUILDERS MAY REGARD THEM AS IN THE SAME CATEGORY AS THOSE FUNDAMENTAL OBSERVATIONS BY WHICH THE DESIGN OF BRIDGES HAS BEEN CONVERTED FROM A RULE-OF-THUMB PROCESS INTO AN EXACT AND DEPENDABLE SCIENCE.

TURNING FROM RETROSPECTION TO THE CONTEMPLATION OF THE FUTURE, I AM IMPRESSED WITH THE NECESSITY OF MAKING ADEQUATE PROVISION FOR THE INCREASING SERVICE THAT WILL BE EXPECTED OF THE HIGHWAYS. IF THE NUMBER OF MOTOR VEHICLES HAS INCREASED FROM TWO AND A HALF TO TWENTY MILLION IN 10 YEARS, THERE IS NO REASON TO BELIEVE THAT THE INCREASE WILL BE ABRUPTLY HALTED NOW, ALTHOUGH WE MAY EXPECT SOME FALLING OFF IN THE RATE. AS TRAFFIC INCREASES DIRECTLY IN PROPORTION TO THE MOTOR VEHICLES IN SERVICE WE MUST EXPECT THAT THE CONDITIONS FOR WHICH WE NOW BUILD WILL BE INTENSIFIED IN THE FUTURE. THE HIGHWAY SERVICE WE ARE NOW PROVIDING MUST BE CAPABLE OF EXPANSION TO MEET THE NEEDS OF THE GROWING TRAFFIC AS THESE MATURE.

DOUBTLESS THE CONCERN OF THE IMMEDIATE FUTURE IS NOT FOR ALL OF YOU THE SAME. TO SOME IT IS THE COMPLETION OF AN INITIAL IMPROVEMENT OF A LARGE MILEAGE, PREVIOUSLY UNIMPROVED, IN THE FACE OF A DEMAND FOR MORE ADEQUATE FACILITIES ON SOME OF THE HIGHWAYS ALREADY WELL DEVELOPED. TO THOSE WHO FACE THIS SITUATION THE PROBLEM IS TO GET THE TRAFFIC THROUGH--TO EFFECT SOME DEGREE OF IMPROVEMENT OVER A WHOLE HIGHWAY SYSTEM AS RAPIDLY AS POSSIBLE IN ORDER TO GIVE THE GREATEST SATISFACTION TO THE GREATEST NUMBER OF PEOPLE.

OTHERS AMONG YOU--MORE FORTUNATE, I BELIEVE--HAVE SYSTEMS OF MAIN ROADS ALREADY IMPROVED AND LARGELY SURFACED, AND THE IMMEDIATE CONCERN IS THE SELECTIVE BETTERMENT OF SECTIONS OF THE SYSTEM TO RELIEVE CONGESTION, ELIMINATE DANGER, AND GENERALLY TO ADJUST THE EXISTING IMPROVEMENT TO THE GROWING NEEDS OF A STILL INCREASING TRAFFIC.

TO ALL ALIKE, HOWEVER, THE PROBLEM OF THE PRESENT IS TO SERVE AS ADEQUATELY AS POSSIBLE THE PRESENT NEEDS, KEEPING IN MIND AT THE SAME TIME THE GREATER NEEDS OF THE FUTURE, AND MAKING SUITABLE PROVISION FOR THEIR ACCOMMODATION WHEN THE TIME ARRIVES. THIS IS THE POLICY OF STAGE CONSTRUCTION, A SOUND POLICY BECAUSE IT RECOGNIZES THE UTTER IMPOSSIBILITY OF BUILDING ONCE FOR ALL A SYSTEM OF HIGHWAYS WHICH MAY BE REGARDED AS A FINISHED PRODUCT, BUT RATHER SUBSTITUTES FOR THAT CONCEPTION, THE PRINCIPLE OF PROGRESSIVE IMPROVEMENT.

THE CONSTRUCTION OF EARTH ROADS ON THE LINES AND GRADES AND WITH THE DRAINAGE PROVISIONS THAT WILL BE REQUIRED BY THE PAVEMENT OF THE FUTURE IS A RECOGNIZED APPLICATION OF THE STAGE-CONSTRUCTION PRINCIPLE. BUT IT HAS MUCH WIDER APPLICATIONS

THAN THAT. THE ACQUISITION OF RIGHTS OF WAY OF AMPLE WIDTH FOR THE FUTURE SO THAT, WHEN THE NEED ARISES, IT WILL BE POSSIBLE WITHOUT HEAVY EXPENSE OR THE INJURY OF PRIVATE PROPERTY TO EFFECT THE NECESSARY IMPROVEMENTS, IS ANOTHER HIGHLY IMPORTANT APPLICATION. THE SAME FORESIGHTED POLICY SUGGESTS THE LOCATION OF THE IMPROVED HIGHWAYS IN RELATION TO RAILROADS AT CROSSINGS IN SUCH MANNER AS TO PROVIDE SATISFACTORILY FOR SEPARATION OF GRADES, AND IT APPLIES ALSO TO PROVISIONS FOR THE CONSTRUCTION OF FUTURE BY-PASS HIGHWAYS AROUND CITIES, AND FOR THE DIVERSION OF TRAFFIC FROM ROUTES OF GROWING CONGESTION.

TO ANTICIPATE THUS THE NEEDS OF THE FUTURE IMPLIES A KNOWLEDGE OF THE PROBABLE TRAFFIC IMPORTANCE OF THE VARIOUS ROADS WHICH CAN ONLY BE OBTAINED BY A CAREFUL AND DETAILED STUDY OF THE PRESENT DISTRIBUTION AND THE FACTORS INHERENT IN THE ECONOMIC AND PHYSICAL CHARACTERISTICS OF THE STATE. SUCH STUDIES HAVE BEEN MADE BY THE BUREAU OF PUBLIC ROADS IN COOPERATION WITH THE HIGHWAY DEPARTMENTS OF A NUMBER OF THE STATES, AND THE REPORTS, RECENTLY PUBLISHED, ARE DOUBTLESS FAMILIAR, TO MANY OF YOU.

THE HIGHWAY DEPARTMENT THAT HAS IN ITS POSSESSION SUCH INFORMATION AS THESE SURVEYS SUPPLY CAN REALLY PLAN FOR THE FUTURE. IT HAS SUBSTITUTED FACTS FOR OPINIONS; IT KNOWS THE PRESENT AND PROBABLE FUTURE IMPORTANCE OF ITS ROADS; IT KNOWS THE DENSITY AND ALSO THE WEIGHT OF THE TRAFFIC TO WHICH EACH ROAD IS NOW SUBJECTED AND TO WHICH IT IS LIKELY TO BE SUBJECTED IN THE NEAR FUTURE. IT CAN, THEREFORE, DEVISE A REASONABLE PROGRAM OF CONSTRUCTION EXTENDING INTO THE FUTURE; IT CAN BUDGET ITS FUNDS INTELLIGENTLY; IT CAN DETERMINE THE ORDER IN WHICH THE VARIOUS HIGHWAYS SHOULD BE IMPROVED AND GIVE A SATISFACTORY ANSWER TO THOSE WHO FAVOR PRIORITY FOR OTHER ROADS; AND IT HAS IN ITS POSSESSION AN ADEQUATE BASIS FOR THE NECESSARY DECISION AS TO THE CHARACTER OF IMPROVEMENT REQUIRED FOR EACH ROAD.

THIS IS SOUND AND BUSINESSLIKE ADMINISTRATION OF HIGHWAY IMPROVEMENTS. IT IS THE REVERSE OF THE CASUAL AND HAPHAZARD PROCEDURE WHICH TOO OFTEN HAS SUBJECTED THE BUSINESS OF HIGHWAY IMPROVEMENT TO POLITICAL MANIPULATION, AND PRODUCED DISCONTINUOUS, UNBALANCED, AND UNECONOMICAL DEVELOPMENT INSTEAD OF WELL ARTICULATED SYSTEMS OF IMPROVED HIGHWAYS.

IN THE FEDERAL-AID WORK WE FEEL THE NEED OF SUCH PRECISE INFORMATION DAILY AND I LOOK FORWARD HOPEFULLY TO A NOT FAR DISTANT TIME WHEN IT WILL BE AVAILABLE IN ALL STATES.

NOT ALL THE EXACT INFORMATION IT IS POSSIBLE TO OBTAIN, HOWEVER, WILL SUFFICE TO PROVIDE AN ORDERLY AND SYSTEMATIC IMPROVEMENT OF THE MAIN ROADS IN THE STATES WHICH STILL RELY UPON THE FINANCIAL ASSISTANCE OF THE COUNTIES TO CARRY OUT THE STATE PROGRAM. CERTAINLY THERE HAS BEEN EXPERIENCE ENOUGH TO PROVE THAT COMPLETE CONNECTION OF MAIN ARTERIES IS PRACTICALLY IMPOSSIBLE SO LONG AS THERE IS DEPENDENCE UPON COUNTY FINANCING. THE REASONS ARE PERFECTLY OBVIOUS. ALL SECTIONS OF THE MAJOR STATE ROADS IN THE VARIOUS COUNTIES ARE NOT INVARIABLY THE ROADS IN WHICH THE COUNTY INTEREST IS THE GREATEST. BY THEIR VERY NATURE THE ROADS OF THE STATE AND FEDERAL-AID SYSTEMS ARE THE MOST HEAVILY TRAVELLED HIGHWAYS. IN MANY INSTANCES THE TRAFFIC WHICH DEMANDS THEIR IMPROVEMENT IS CONTRIBUTED IN A SMALLER DEGREE BY COUNTIES THROUGH WHICH THEY PASS THAN BY OTHER COUNTIES OR EVEN OTHER STATES. IT IS NOT UNNATURAL THAT THE AUTHORITIES OF SUCH COUNTIES SHOULD BE UNWILLING, AND THEY OFTEN ARE FINANCIALLY UNABLE, TO ASSUME A SHARE IN THE COST OF THE IMPROVEMENT. SO LONG AS ANY STATE FAILS TO PROVIDE STATE FUNDS FOR SUCH ROADS THE DEVELOPMENT OF THE MAIN STATE AND INTERSTATE ROADS ALONG STRICTLY ECONOMIC LINES WILL BE HAMPERED.

FULL OPERATION OF THE PROVISION OF THE FEDERAL HIGHWAY ACT WHICH AIMS TO CORRECT THIS CONDITION HAS BEEN TWICE DEFERRED IN THE FEDERAL LEGISLATION TO GIVE THE STATES CONCERNED MORE TIME TO CORRECT THEIR LAWS. THERE OUGHT TO BE NO FURTHER DELAY. I AM SURE THAT THE MEMBERS OF THIS ORGANIZATION FROM THE AFFECTED STATES WILL JOIN WITH ME IN THE HOPE THAT THE NECESSARY LAWS AND CONSTITUTIONAL AMENDMENTS WILL BE PROVIDED BEFORE THE CONGRESS SHALL AGAIN HAVE THIS LEGISLATION BEFORE IT FOR FURTHER ACTION.

IT IS MANIFESTLY UNFAIR TO THE COUNTIES THEMSELVES TO EXPECT THEM TO PARTICIPATE IN THE COST OF IMPROVING THE MAIN LINES OF TRAFFIC. TO DO SO PLACES A BURDEN UPON THEM WHICH THEY SHOULD NOT BE EXPECTED TO BEAR. THE IMPROVEMENT AND UPKEEP OF THE ROADS TRIBUTARY TO THE MAIN SYSTEMS ARE OF THE HIGHEST IMPORTANCE TO AGRICULTURE AND THE COUNTY AND LOCAL FUNDS MUST BE PRESERVED FOR THIS PURPOSE. THE TRAFFIC ON THE STATE ROADS IS A WIDE-RANGING TRAFFIC. THE GREATER PART OF IT ORIGINATES IN AND IS DESTINED TO THE CITIES, AND ANY SYSTEM WHICH CAUSES THE RURAL COMMUNITIES TO CONTRIBUTE TO THE EXPENSE OF IMPROVEMENT IN GREATER PROPORTION THAN THE BENEFITS THEY DERIVE IS UNFAIR AND OUGHT TO BE REMEDIED.

LOOKING TO THE FUTURE ALSO THERE MUST BE A STILL GREATER IMPROVEMENT IN THE MAINTENANCE OF ALL ROADS AND ESPECIALLY OF THE FEDERAL-AID ROADS, AN OBLIGATION WHICH THE FEDERAL LAW PLACES UPON THE STATE HIGHWAY DEPARTMENTS. WHILE UNQUESTIONABLY THERE HAS BEEN GREAT IMPROVEMENT IN THIS RESPECT DURING THE LAST DECADE, THE FAILURE TO MAKE PROPER PROVISION FOR THE REPAIR OF ROADS UPON WHICH LARGE SUMS OF PUBLIC MONEY HAVE BEEN INVESTED IS THE SHEEREST OF ECONOMIC FOLLY. UNLESS THERE IS POSITIVE ASSURANCE THAT MEANS WILL BE AVAILABLE FOR THE CONSTANT AND CONTINUOUS CARE OF THE ROADS AFTER THEY ARE IMPROVED, I AM CONVINCED THAT IT WOULD BE BETTER NOT TO IMPROVE THEM AT ALL.

IT HAS NOT OFTEN BEEN NECESSARY TO ENFORCE THE PROVISIONS OF THE FEDERAL HIGHWAY ACT IN RESPECT TO NON-PERFORMANCE OF THE NECESSARY MAINTENANCE WORK ON FEDERAL-AID PROJECTS. WITH FEW EXCEPTIONS THE OBLIGATION OF THE STATES HAS BEEN CARRIED OUT. THERE ARE A FEW--NO MORE THAN CAN BE COUNTED UPON THE FINGERS OF ONE HAND--UPON WHOM IT HAS BEEN NECESSARY TO CALL REPEATEDLY FOR ESSENTIAL WORK TO SAVE THE FEDERAL-AID ROADS FROM DETERIORATION. THE DEPARTMENT HAS BEEN PATIENT IN DEALING WITH SUCH CASES AND OUR REQUESTS HAVE ALWAYS BEEN MET WITH A RESPONSE BUT MAINTENANCE THAT IS DELAYED UNTIL THE DETERIORATION HAS ADVANCED TO THE POINT WHERE IT BECOMES NECESSARY TO DIRECT ATTENTION TO IT, IS NOT THE RIGHT KIND.

WHILE THE STATES IN ACCEPTING THE FEDERAL APPROPRIATIONS ACCEPTED ALSO THE OBLIGATION OF KEEPING THE ROADS IN PROPER REPAIR, THE DEEPER OBLIGATION IS THAT OF RENDERING THE BEST POSSIBLE SERVICE TO THE PUBLIC AND OF PROTECTING PUBLIC INVESTMENT. NEITHER THE PUBLIC NOR THE LEGAL OBLIGATION CAN BE SATISFIED BY A PERFUNCTORY HIGHWAY MAINTENANCE POLICY. THE DEPARTMENT HAS ENDEAVORED TO DEAL IN A STRAIGHT-FORWARD WAY WITH ITS DUTY TO ENFORCE THE LAW IN THIS RESPECT. THERE HAS BEEN NO TENDENCY TO PICK FLAWS OF A MINOR CHARACTER OR TO LOOK WITH UNSYMPATHETIC EYES UPON THE EFFORTS OF THE STATES. IT IS NOT A PLEASANT DUTY TO SERVE A FORMAL NOTICE REQUIRED UNDER THE LAW UPON ANY STATE, AND IT IS STILL LESS PLEASANT TO WITHDRAW FEDERAL PARTICIPATION. THE DEPARTMENT BELIEVES, HOWEVER, THAT ITS FIRST DUTY IS TO INSURE PROPER MAINTENANCE OF THE ROADS CONSTRUCTED WITH FEDERAL FUNDS, AND THIS VIEWPOINT I AM SURE WILL HAVE THE UNANIMOUS SUPPORT OF THIS ASSOCIATION. THERE ARE A FEW STATES IN WHICH THERE HAVE BEEN TOO FREQUENTLY REPORTS OF PROJECTS IN AN UNSATISFACTORY STATE OF MAINTENANCE, AND MAY I TAKE THIS OPPORTUNITY TO URGE VERY SERIOUSLY UPON THESE STATES, WHICH

CAN NOT THEMSELVES BE SATISFIED WITH SUCH CONDITIONS, THEIR IMMEDIATE CORRECTION. THE DEPARTMENT WISHES TO MAKE CLEAR ITS POSITION THAT THE DUTY TO MAINTAIN ROADS ALREADY CONSTRUCTED IS PARAMOUNT.

WITH EACH YEAR'S PROGRESS NOW IT BECOMES EASIER TO SEE THE WORKING OUT OF ONE OF THE PRIMARY CONCEPTIONS OF THE FEDERAL-AID ROAD LEGISLATION AS EXPRESSED IN THE REQUIREMENT TO EXPEDITE THE COMPLETION OF AN ADEQUATE SYSTEM OF HIGHWAYS INTERSTATE IN CHARACTER. IT WAS FORESEEN THAT THE FULFILLMENT OF THIS PURPOSE WOULD COME THROUGH A LINKING UP OF SECTIONS OF MAIN HIGHWAYS AS THEY ARE DEVELOPED STATE BY STATE, AND UP TO THIS TIME THE PROGRAMS WITHIN THE STATES HAVE IN GENERAL BEEN IN HARMONY WITH THE EXPECTED PROGRESS IN THE DIRECTION OF THROUGH ROUTES. IN SOME CASES THE DEPARTMENT HAS TAKEN DEFINITE POSITIONS WITH REFERENCE TO SPECIFIC PROJECTS TO PROVIDE MISSING LINKS, USUALLY IN THE WAY OF BRIDGES AT STATE BOUNDARIES, BUT NOW WITH THE MAJOR ROUTES OF THE COUNTRY SO CLEARLY DEFINED BY THE ACTION OF THE STATES THROUGH THIS ASSOCIATION, THE UNIMPROVED SECTIONS OF THESE ROUTES HAVE BEEN BROUGHT IN STRONG RELIEF. IT IS NOW POSSIBLE TO TRAVEL FROM WASHINGTON THROUGH ST. LOUIS, TEXARKANA, AND EL PASO TO SAN DIEGO, OVER A TRANSCONTINENTAL ROUTE OF WHICH 97 PER CENT IS IMPROVED, 93 PER CENT IS SURFACED AND 4 PER CENT IS GRADED AND DRAINED. OF THE SURFACED PORTION MORE THAN HALF IS IMPROVED WITH BITUMINOUS MACADAM OR HIGHER COST TYPES AND THE REMAINDER IS GRAVEL. FROM WASHINGTON TO ST. LOUIS THERE IS NO UNIMPROVED SECTION AND NEARLY 96 PER CENT IS SURFACED WITH BITUMINOUS MACADAM OR ONE OF THE HIGHER TYPE ROADWAYS. FROM ST. LOUIS TO TEXARKANA, 2 PER CENT OF THE DISTANCE IS UNIMPROVED AND 63 PER CENT IS IMPROVED WITH A GRAVEL SURFACE, THE REST WITH SUPERIOR TYPES. FROM TEXARKANA TO EL PASO THERE ARE UNIMPROVED SECTIONS EQUALING 4 PER CENT OF THE DISTANCE, GRAVEL SURFACES 50 PER CENT AND BITUMINOUS MACADAM OR SUPERIOR TYPE THE REST OF THE WAY. FROM EL PASO TO SAN DIEGO, WITH THE EXCEPTION OF 6 PER CENT OF THE DISTANCE, THE ROAD IS SURFACED, 60 PER CENT WITH GRAVEL AND THE REMAINDER WITH PAVEMENTS AND SURFACES OF HIGHER TYPES.

THIS IS THE POSSIBLE TRANSCONTINENTAL ROUTE, TOTALING 3,133 MILES, MOST NEARLY SURFACED; 2,907 MILES ARE SURFACED AND 131 MILES ARE GRADED AND DRAINED, LEAVING ONLY 95 MILES WITHOUT IMPROVEMENT. THIS ROUTE DOES NOT COINCIDE WITH ANY ONE OF THE UNITED STATES ROUTES BUT IT DOES INDICATE THE SPLENDID PROGRESS THAT HAS BEEN MADE BY THE STATES IT TRAVERSES IN THE COMPLETION OF IMPORTANT TRANSSTATE ROUTES. CONSIDERED FROM THE STANDPOINT OF IMPROVEMENT, THE NEXT RANKING TRANSCONTINENTAL ROUTE IS THAT

FROM ATLANTIC CITY TO ASTORIA. OF ITS TOTAL LENGTH OF 3,240 MILES, 12 PER CENT IS STILL UNIMPROVED, ANOTHER 12 PER CENT IS GRADED AND DRAINED, AND THE REMAINING 75 PER CENT IS IMPROVED WITH SOME FORM OF WEARING SURFACE. OF OTHER EAST AND WEST ROUTES, THAT FROM NORFOLK TO LOS ANGELES IS 68 PER CENT IMPROVED AND THAT FROM CHICAGO TO LOS ANGELES PARTLY BY THE SAME LINE IS 63 PER CENT IMPROVED. FROM BOSTON TO SEATTLE, THROUGH THE NORTHERN TIER OF STATES, THE MOST DIRECT THROUGH ROUTE IS 73 PER CENT IMPROVED AND 69 PER CENT SURFACED.

THESE ROUTES ARE TAKEN TO ILLUSTRATE THE WORKING OUT OF THE PRINCIPLE, AS DEFINED IN THE FEDERAL HIGHWAY LEGISLATION, OF THE COMPLETION OF INTERSTATE ROUTES. THERE MAY BE CRITICS WHO HOLD THAT THE TEN-YEAR PERIOD COVERED BY THIS LEGISLATION SHOULD HAVE PRODUCED MORE TRANSCONTINENTAL ROUTES FULLY IMPROVED. THERE ARE TWO ANSWERS: THE ACTUAL OPERATIONS OF THE FEDERAL HIGHWAYS LEGISLATION DID NOT GET UNDER WAY UNTIL WELL INTO THE YEAR 1919, AND THE TREMENDOUS DEVELOPMENT OF MOTOR VEHICULAR TRAFFIC, PARTICULARLY AROUND EVERY CENTER OF POPULATION, LARGE AND SMALL, LOCAL RATHER THAN TRANSSTATE IN CHARACTER, HAS NECESSITATED FIRST ATTENTION TO THE IMMEDIATE SERVICE DEMANDED. IT IS MY FEELING THAT THE PROGRESS IN THE COMPLETION OF TRANSCONTINENTAL ROADS IS GRATIFYING, BUT I DO NOT LOSE SIGHT OF THE FACT THAT THE LACK OF TRANSSTATE ROUTES IN THE AGRICULTURAL STATES OF THE MISSISSIPPI VALLEY IS NOT IN KEEPING WITH THE DEVELOPMENT, EAST AND WEST. IN SPECIFIC STATES THIS CONDITION IS BROUGHT ABOUT MORE LARGELY BY THE FEATURE REFERRED TO ABOVE, THAT IS, THE DEPENDENCE UPON COUNTY FINANCING, THAN UPON ANY LACK OF NEED OF SUCH ROADS OR LACK OF RESPONSE ON THE PART OF THE STATE HIGHWAY DEPARTMENTS. NOW THAT THERE HAS BEEN PLAINLY POINTED OUT AND DEFINED THE THROUGH ROUTES WHICH ARE OF MAJOR NATIONAL IMPORTANCE, THERE SHOULD BE AN ENERGETIC EFFORT MADE TO IMPROVE THE MISSING LINKS, NOT BECAUSE THEY ARE TRANSCONTINENTAL ROUTES BUT RATHER BECAUSE IN GENERAL THESE UNIMPROVED SECTIONS LIE ON THE MOST IMPORTANT STATE ROUTES, AND THE FAILURE TO IMPROVE THESE IMPOSES A HANDICAP UPON THE PEOPLE OF EACH STATE IN THE SATISFACTORY USE OF THEIR OWN ROAD SYSTEMS. BUT THE NATIONAL USE MUST NOT BE LOST SIGHT OF, NOR THE REQUIREMENT OF THE NATIONAL LEGISLATION THAT THESE INTERSTATE ROUTES SHALL BE EXPEDITED. THE DEPARTMENT HAS NOT ATTEMPTED TO DICTATE THE ROUTES WHICH SHOULD BE REGARDED AS MAJOR STATE ROUTES. NEITHER FOR THAT MATTER HAVE THE STATE HIGHWAY DEPARTMENTS. THROUGH THE CAREFUL WORK OF THE JOINT BOARD ON INTERSTATE HIGHWAYS, AND THE EXECUTIVE COMMITTEE OF THE ASSOCIATION, EACH STATE HIGHWAY DEPARTMENT HAS EXPRESSED IN A DEFINITE WAY THE ROUTES WHICH ARE OF THE GREATEST IMPORTANCE WITHIN THE STATE. IN OTHER WORDS,

THIS SYSTEM OF INTERSTATE ROUTES HAS BEEN BUILT FROM THE LOCAL VIEWPOINT UPWARD AND NOT FROM THE TRANSCONTINENTAL VIEWPOINT DOWNWARD.

BUT HAVING NOW SETTLED UPON THESE ROUTES, WHICH IN THE LAST ANALYSIS THE PUBLIC ITSELF HAS DEFINED BY THEIR USE, IT BECOMES OUR DUTY, THE FEDERAL AND STATE HIGHWAY DEPARTMENTS WORKING IN COOPERATION, TO EXPEDITE THEIR COMPLETION. THERE ARE APPROXIMATELY 80,000 MILES OF HIGHWAY INCLUDED IN THESE ROUTES. TO COMPLETE THEM TO A STATE OF IMPROVEMENT SATISFACTORY FOR PRESENT USE IS A MATTER OF CLOSING GAPS. I AM CONVINCED THAT THIS, THE INITIAL IMPROVEMENT, CAN BE COMPLETED BY 1930 WITHOUT DIFFICULTY, AND AS A DEFINITE OBJECTIVE I CAN THINK OF NO EXPENDITURE OF EFFORT WHICH WOULD BRING WITH IT A GREATER RETURN OF PUBLIC SATISFACTION OR ANY MORE INTELLIGENT METHOD OF KEEPING FAITH WITH BOTH THE FEDERAL AND STATE GOVERNMENTS WHICH HAVE ENTRUSTED TO US THE ADMINISTRATION OF THESE LARGE FUNDS.

THE UNIFORM SIGNING AND NUMBERING OF THE UNITED STATES HIGHWAY ROUTES IN ACCORDANCE WITH THE REASONABLE PLANS NOW DEVISED ARE ESSENTIAL IN ORDER TO ESTABLISH IT IN THE PUBLIC MIND AS AN ENTITY. THEY ARE NEEDED ALSO TO DEVELOP THE MAXIMUM DEGREE OF SERVICE AND SAFETY IN THEIR USE BY THE EVER INCREASING PUBLIC TRAFFIC. FROM THE FEDERAL POINT OF VIEW THE EARLY IMPROVEMENT OF THESE ROUTES IS OF LARGE IMPORTANCE, AND I ASK YOUR FULL SUPPORT IN AN EFFORT, WHEN THESE DESIGNATED ROUTES SHALL HAVE BEEN RATIFIED BY THIS ASSOCIATION, TO COMPLETE THE UNIMPROVED LINKS AT THE EARLIEST POSSIBLE TIME AND TO BEAR WITH THIS DEPARTMENT IN A REASONABLE BUT INSISTENT DEMAND THAT THE FEDERAL FUNDS SO FAR AS POSSIBLE BE DEDICATED TO THIS PURPOSE WITH THE FULL CONSENT AND BELIEF ON THE PART OF THE HIGHWAY DEPARTMENTS THAT THE END IS DESIRABLE AND WORTHY. I ESTEEM IT A PRIVILEGE AND IT HAS BEEN A PLEASURE TO MEET WITH THIS ASSOCIATION, TO KNOW IN MORE DETAIL OF ITS WORK, AND TO HAVE THE OPPORTUNITY TO EXPRESS TO YOU MY HIGH APPRECIATION OF THE CHARACTER OF MEN WHO ARE ENGAGED IN THIS PUBLIC SERVICE, AND MY SINCERE THANKS THAT THE UNFAILING COOPERATION OF THE HIGHWAY DEPARTMENTS HAS LIGHTENED THE DUTIES OF MY ADMINISTRATION AS SECRETARY OF AGRICULTURE.

TWO THOUSAND YEARS OF ROAD BUILDING

AN ADDRESS DELIVERED BY MR. THOS. H. MACDONALD, CHIEF OF THE BUREAU, ON NOVEMBER 10, 1926, BEFORE THE CONVENTION OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS HELD AT PINEHURST, NORTH CAROLINA.

ONE PURPOSE OF THIS PAPER IS TO PROVIDE A MEASURE BY WHICH TO FORM SOME ADEQUATE IDEA OF THE REAL AND RELATIVE ACCOMPLISHMENTS OF THE HIGHWAY BUILDING INDUSTRY OF THIS NATION, AND PARTICULARLY OF THE MEMBERSHIP OF THIS ASSOCIATION, PAST AND PRESENT.

ANOTHER, PROBABLY LESS POSSIBLE, IS TO PLACE BEFORE THE PUBLIC THE LONG-TIME VIEW OF THE PROBLEMS OF HIGHWAY BUILDING AND FINANCING, LIFTING THESE, FOR THE MOMENT AT LEAST, ABOVE THE MANY LITTLE PASSING OBJECTIONS AND OBSTACLES THAT HAMPER PROGRESS.

AND YET ANOTHER, TO BRING TO THOSE ENGAGED IN THIS WORK A GREATER ENTHUSIASM AND DETERMINATION, AND A DEEPER CONFIDENCE IN GOING FORWARD WITH THE POLICIES AND THE PROGRAM WE NOW CONSIDER THE BEST PRACTICE.

A LARGE UNDERTAKING TO ATTEMPT WITHIN THE LIMITS OF A FEW PAGES, PERHAPS, AND ADMITTEDLY SO, BUT THE HIGHWAY ENGINEERS AND OFFICIALS MUST IN JUSTICE TO THEIR WORK LIFT THEIR EYES FROM THE DAY'S WORK TO ITS COMPOUNDED SIGNIFICANCE, TO TURN FOR THE MOMENT FROM THE DETAILS OF OFFICE AND FIELD TO GRASP INTELLIGENTLY JUST WHAT HAS BEEN GOING ON IN THESE UNITED STATES WHEN PROJECTED AGAINST THE PROGRESS OF THE WORLD AFTER TWO THOUSAND AND MORE YEARS OF ROAD BUILDING.

AND SO, TOO, FOR THE WHOLE HIGHWAY INDUSTRY, AND EVEN MORE TRULY FOR THE GENERAL PUBLIC, BECAUSE OF ITS CONTROL OVER PUBLIC POLICIES TODAY IN SHARP CONTRAST WITH THE ONE-TIME POWER OF SINGLE RULERS SO ABSOLUTE THAT THEY ALONE DETERMINED THE DIMENSIONS OF PUBLIC WORK. HERE IS THE FIRST AND ONE OF THE MOST VIVID CONTRASTS BETWEEN THE PRESENT AND THE PAST. THERE HAS BEEN TOO MUCH RECITATION OF FACT FROM HISTORY IMPOSED UPON US WITHOUT INTELLIGENT INTERPRETATION. TO CUT AWAY THESE FOGGY FICTIONS TO PERMIT AN UNDERSTANDING OF THE UNDERLYING TRUTH WILL CLEAR FROM OUR MINDS MUCH RUBBISH AND MANY INHIBITIONS THAT HAVE COMBINED TO LESSEN THE DEGREE OF LEADERSHIP THIS GREAT PUBLIC BUSINESS DEMANDS AND MUST HAVE.

There have been just three great programs of highway building within recorded history that by the major tests of area served and mileage completed may be classed together:-

That of the Roman Empire, beginning with Julius Caesar and extending to Constantine;

That of France under the Emperor Napoleon;

That of the United States during the past decade.

From the data it has been possible to examine it has not been possible to determine limiting dates with exactness for the Roman and French periods, nor is it necessary. There will not be entire agreement with the period assigned to the United States. It is hoped with more complete research to fix these periods more exactly, but the difference of a few years either way is not important. To understand the underlying reasons, principles and the results of these earlier great road building epochs is important. To gain from them their wealth of information bearing upon civilization and reasoning by analogy to apply this knowledge wrought out of national experience to the projecting of the long-time curve of probabilities in the United States is most important.

The Roman Road Building Period

The fact is recorded over and over, and public addresses have innumerable times reiterated that the Appian Way, the first of the great Roman roads, was commenced in the year 312 B. C. by the Censor, Appius Claudius, under the Republic, and extended from the Porta Capena, Rome, to Capua, about 125 miles distant. But we are confused by the assertion that the Via Aurelia, the second paved highway, was built about 242 B. C., or seventy years later. With the growth and extension of the dominion of Rome, road building progressed so that we read*, "The most ancient remarks we can find in the Roman history of the highways made in Italy to which several magistrates afterwards added so much, that in the days of Julius Caesar, the city of Rome was by them joined to all the regions and principal cities of Italy and though Augustus Caesar and the following emperors made extraordinary works there, it was rather to enlarge and repair them than to make new ones from beginning to end, excepting some made by

* Bergier, p. 35, History of Highways.

Domitian, Aurelian and Trajan."

Julius Caesar extended the rule of Rome until there was included in the Western Empire the countries around the Mediterranean Sea, France, Belgium, Netherlands, Great Britain and parts of Germany, Austria and Hungary. At the height of his power, he was made Overseer of the Appian Way and expended large sums from his private purse to repair and extend this great highway. The rulers sent from Rome to administer the provinces carried on the work of road building. But a little later we read of Augustus, *"This great and fortunate Emperor finding himself in a settled peace with so many legions (estimated at 173,000 men) on his hands which might be debauched by sloth, thought he could not better employ so many men, dispersed throughout the provinces, than in the making of new highways in all parts of his Empire;****." In addition there were drafted for this work the common people, the mechanics and artisans, the criminals and condemned persons, so that, *"In short, we may conclude it was not one kingdom or one region alone, that furnished men to work upon such a vast design, but that all Europe, Asia and Africk, set their hands to it. And that the greatest and most potent kingdoms that once flourished in said parts of the world were employed at it whilst they were subject to the Empire; which can not be said of any other work in the universe."

This work was carried forward sometimes in a desultory way and sometimes on a large scale under succeeding Emperors, but it reached its height under Augustus about 300 years after Appius Claudius began the Appian Way and in the decade before the birth of Christ.

The Napoleonic Road Building

A brief word is necessary to bridge the Dark Ages (500 to 1150 A. D.) and the Middle Ages into the eighteenth century. With the decay of the Roman Empire the world road system as such broke down, although quite different conditions prevailed in different countries. Religious pilgrimages, the Crusades, the journeys of the secular rulers and the high dignitaries of the Church leave some record of the use of trans-state and transcontinental routes, but the records of commerce are meagre. The general tendency was all toward feudal government which resulted in neglect and the actual tearing up of some

* Bergier, p. 42 and 47.

OF THE ANCIENT ROADS AS A METHOD OF PROTECTION. ALSO NOT ONLY THE ROADS BUT THE MAGNIFICENTLY BUILT PUBLIC AND PRIVATE BUILDINGS WERE WRECKED TO PROVIDE BUILDING MATERIALS. DURING THIS PERIOD ANCIENT ROME WAS RAVISHED TO A MUCH GREATER DEGREE TO PROVIDE BUILDING MATERIALS AND METALS THAN BY CONQUEST, FIRE OR OTHER CAUSES.

NAPOLEON BECAME FIRST CONSUL OF FRANCE IN 1799 AND BEGAN AT ONCE TO BUILD A SYSTEM OF NATIONAL ROADS. IN 1804 THROUGH A PLEBISCITE THE PEOPLE BY AN OVERWHELMING VOTE DECIDED HE SHOULD BECOME EMPEROR, AND THAT YEAR BEFORE THE HIGH ALTAR OF THE NOTRE DAME CATHEDRAL HE PLACED A GOLDEN LAUREL WREATH UPON HIS OWN HEAD. ALSO HE CROWNED HIMSELF KING AT MILAN OF THE MONARCHY OF NORTH ITALY. THUS AT THE BEGINNING OF THE NINETEENTH CENTURY, A LARGE PART OF THE SAME AREA THAT HAD BEEN RULED BY ROME, TWELVE AND ONE HALF CENTURIES LATER WAS AGAIN BROUGHT UNDER AN EMPIRE, THIS TIME THAT OF FRANCE. THE CORPS DES PONTS AND CHAUSSEES HAD BEEN ESTABLISHED IN 1796, AND WAS COMPOSED OF TRAINED ENGINEERS THROUGH THE WORKINGS OF THE EARLIER ESTABLISHED TECHNICAL SCHOOLS. SO WHEN THE EMPEROR DEMANDED AND VIGOROUSLY SUPPORTED A BIG PROGRAM OF ROAD BUILDING, LARGE ACCOMPLISHMENTS WERE POSSIBLE THROUGH THE AVAILABLE ORGANIZATION. M. PRONY, THE DIRECTOR OF THE PONTS AND CHAUSSEES, DESCRIBED AS AN ENGINEER OF FIRST RANK, DROVE INTO EXECUTION THIS WORK. FROM 1804 TO 1813, THE EXPENDITURE FOR ROADS AND BRIDGES FROM THE NATIONAL TREASURY IS PLACED AT 300 MILLION FRANCS. ON DECEMBER 16, 1811, A DECREE WAS ISSUED WHICH ESTABLISHED A UNIFORM SYSTEM OF HIGHWAY ADMINISTRATION THE GENERAL PRINCIPLES OF WHICH HAVE REMAINED UNCHANGED. THIS DEGREE DIVIDED THE ROADS INTO IMPERIAL AND DEPARTMENTAL ROUTES, AND FIXED FINANACIAL RESPONSIBILITY UPON THE FEDERAL GOVERNMENT AND THE DEPARTMENTS. IT DESIGNATED FOURTEEN IMPERIAL ROADS OF THE FIRST CLASS LEADING FROM PARIS TO THE PRINCIPAL CITIES OF THE FRONTIER, THIRTEEN IMPERIAL ROADS OF THE SECOND CLASS FROM PARIS TO THE LESS IMPORTANT CITIES ON THE FRONTIER, AND 202 ROADS OF THE THIRD CLASS JOINING INTERIOR CITIES, A TOTAL OF ABOUT 17,000 MILES. THE DEPARTMENTAL ROADS NUMBERED 1,165, IN ALL ABOUT 12,000 MILES. THESE NATIONAL ROUTES INCLUDED THE MONT-CENIS COMPLETED IN 1805 TO CONNECT PARIS WITH TURIN AND THE SIMPLON COMPLETED IN 1807 TO CONNECT PARIS WITH MILAN, ROME AND NAPLES.

IN AN INCOMPLETE, IMPERFECT WAY THESE FACTS PRESENT THE ONLY GREAT ROAD BUILDING PROGRAMS THAT MAY BE COMPARED WITH THAT WITH WHICH THE UNITED STATES IS NOW ENGAGED, BUT THEIR ASPECTS ARE VERY DIFFERENT THAN WE HAVE BEEN LED TO BELIEVE. BOTH THE ROMAN AND THE FRENCH SYSTEMS HAVE COME DOWN THROUGH HISTORY AS

MILITARY HIGHWAYS. ON THE CONTRARY THE GREATEST EXPENDITURES WERE MADE AND THE MOST EXTENSIVE MILEAGES BUILT AFTER THE BOUNDARIES OF BOTH EMPIRES HAD BEEN EXTENDED TO THEIR GREATEST DIMENSIONS. CERTAINLY THESE ROADS WERE USED FOR MILITARY MOVEMENTS, BUT BOTH THE EMPEROR AUGUSTUS AND THE EMPEROR NAPOLEON THREW THEIR ENERGIES INTO ROAD BUILDING TO MAKE POSSIBLE THE ADMINISTRATION OF A GREAT EMPIRE, TO STIMULATE COMMERCE AND TO PROVIDE FOOD SUFFICIENT. NAPOLEON SAID, "HE FEARED POPULAR INSURRECTIONS DUE TO ECONOMIC CAUSES THOUGH HE WAS NOT AFRAID OF POLITICAL RISINGS." IN OTHER WORDS, A TRANSPORTATION SYSTEM, ADEQUATE AND COMPLETE, IS A FUNDAMENTAL REQUIREMENT OF A NATION LARGE IN ITS PHYSICAL DIMENSIONS. ON THIS BASIS WE MUST, IN OUR CONCEPTION, LINK OUR RAILROADS AND MOTOR VEHICLES AND HIGHWAYS. TOGETHER THEY SUPPLY THE MOST ADEQUATE, MOST EFFICIENT TRANSPORT SYSTEM ANY LIKE AREA IN THE WORLD POSSESSES OR HAS EVER KNOWN.

IN THE EMPIRES, AUTHORITY FROM A SINGLE SOURCE WAS SUPREME, IN THIS DEMOCRACY WE ARE DEPENDENT UPON COOPERATION BETWEEN THE STATES THEMSELVES AND BETWEEN THE STATES AND THE FEDERAL GOVERNMENT TO COMPLETE AN ORDERLY SYSTEM OF HIGHWAYS THAT WILL PERMIT TRAFFIC AND COMMERCE TO FLOW UNINTERRUPTED. IN A MAJOR DEGREE ALSO WE MUST DEPEND UPON COOPERATION, NOT LEGISLATION, TO ESTABLISH COORDINATION BETWEEN RAILWAY AND HIGHWAY.

MORE THAN ONE HUNDRED AND TWENTY-FIVE YEARS AGO FRANCE PLACED HER HIGHWAYS UNDER COMPETENT TECHNICAL DIRECTION AND PROVIDED FOR A SYSTEM OF TECHNICAL INSTRUCTION TO TRAIN MEN. GENERALLY SPEAKING, THE TECHNICAL EQUIPMENT OF OUR HIGHWAY ENGINEERS IS VERY GOOD AND CONSTANTLY IMPROVING. WHEN FITNESS FOR THE POSITION AND INTEGRITY OF CHARACTER ARE MADE THE FIRST REQUIREMENTS FOR APPOINTMENT TO HIGHWAY DEPARTMENTS, THERE WILL BE NO MORE HIGHWAY ADMINISTRATION SCANDALS. UNTIL THIS IS DONE WE CAN HARDLY FAIL TO HAVE AT LEAST ISOLATED CASES OF A BREAKDOWN OF EFFICIENT AND HONEST ADMINISTRATION.

A GLANCE AT PRESENT DAY CONDITIONS.

OF CHIEF INTEREST TO US IN THE UNITED STATES IS THE EFFECT THAT PAST HISTORY HAS HAD UPON PRESENT DAY ROAD CONDITIONS SINCE IT MAY HELP US TO SEE FURTHER AHEAD AND CERTAINLY THE EXPERIENCES OF CIVILIZATION IN THE OLDER COUNTRIES OUGHT TO HAVE MUCH OF VALUE IN FORMULATING BROAD PLANS FOR THE FUTURE.

Italy, with a relatively small nation in area, of about 120,000 square miles, has a population of 39,659,944. The population has clustered thickly along the world old lines of highways, has crowded in upon the rights of way, and there are many villages. There is a large amount of foot and animal drawn traffic, but the maximum flow of automobile traffic reported near the population centers is 3300 vehicles in 15 hours. The Italian Premier, Benito Mussolini, in his final address to the Road Congress stated, "Italy has a great road problem to solve; new roads necessary to promote her agricultural life, to facilitate her commerce, and finally, arteries necessary for international tourism in order to render her beauties accessible. She possesses, moreover, a conspicuous road patrimony formed during many centuries by the work of countless generations." Apparently the surfacing and maintenance problems in Italy are of first import, but the new alignments that will be necessary, or perhaps even new rights of way, in many cases present, certainly, "a great road problem to solve." So serious is the problem of alignment and widths of highways leading from the large population center of Milan, that about 50 miles of toll motor roads have been built under Governmental franchise by private corporations.

France and Belgium have a wonderful heritage in the systematic plan that was laid out and begun prior to, and developed and completed since, the Napoleonic Decree of 1811, so that the layout and classification of the highway systems in these countries on a nationwide basis for uniformity and adequacy of planning are perhaps superior to anything in any like area. The Polytechnic School and the Ecole des Ponts et Chaussees supply the highest ranking engineering graduates for the highway work. In both these countries there is a considerable mileage of main routes paved with stone blocks but the surfacing problem on long mileages of macadam is important. A series of experimental roads have been built near Paris for testing various types of concrete slab and bituminous construction, as well as surface treatments.

In Austria and in Czechoslovakia also the surfacing problem on the main roads is of first importance. There are in existence some splendid highways which we are informed date back to the time of Marie Therese. Near Vienna and again near Prague experimental roads are under construction in which both the bituminous mixed types and concrete slabs have been made. These appear to be the first roadways which have been laid in these countries corresponding to the standard types of pavement in

GENERAL USE HERE. WE WERE INFORMED THAT FOLLOWING THE ESTABLISHMENT OF A SCHOOL FOR TECHNICAL INSTRUCTION IN FRANCE, A SCHOOL WAS ESTABLISHED IN PRAGUE, AND WHETHER FROM THIS SCHOOL EMANATED THE STANDARDS THAT WERE SET UP FOR THE NATIONAL ROAD CONSTRUCTION IS NOT MADE CLEAR, BUT IN ANY EVENT SOME OF THE BEST ROADS, THOSE MORE NEARLY CORRESPONDING TO THE BEST MODERN STANDARDS IN ALIGNMENT, SUBSTANTIAL PROPORTIONS, WIDTH AND ADEQUACY, ARE FOUND NEAR PRAGUE. WHERE SUCH ROADS EXISTED AN ADEQUATE MODERN SURFACE WILL COMPLETE ROADS OF THE HIGHEST CLASS.

IN GERMANY THE ROAD WORK HAS BEEN CARRIED ON BY THE INDIVIDUAL STATES RATHER THAN THROUGH ANY CENTRAL DIRECTION, SO THAT THE HIGHWAY SERVICE NOW IS ON A STATE RATHER THAN A NATIONAL BASIS. THE FEDERAL DIRECTOR OF TRAFFIC STATES THAT THE MAJOR PROBLEM IS TO PROVIDE NATIONAL ROUTES. AN EXPERIMENTAL TRACK, SIMILAR TO THAT USED IN THE PITTSBURG AND ARLINGTON TESTS, HAS BEEN BUILT BY ONE OF THE STATES FOR TESTING THE RELATIVE VALUES OF THE VARIOUS TYPES OF CONSTRUCTION THAT MAY BE USED.

IN GREAT BRITAIN, WITH AN AREA OF 50,000 SQUARE MILES AND A POPULATION OF 37,000,000 PEOPLE, THE TRAFFIC PROBLEM HAS BECOME ACUTE WITHIN AND BETWEEN THE BIG CITIES. THE MINISTRY OF TRANSPORT HAS BUILT SOME ARTERIAL ROADS TO RELIEVE BOTTLE NECKS AND TO ESTABLISH THROUGH LINES OF COMMUNICATION. WHERE THESE HAVE BEEN COMPLETED AS PARTS OF ESTABLISHED ROUTES THEY ARE CARRYING A VERY HEAVY TRAFFIC AND HAVE AFFORDED WONDERFUL RELIEF. THIS WORK, HOWEVER, WAS TAKEN UP AT THE PARTICULAR TIME TO ASSIST IN PROVIDING EMPLOYMENT, AND A PART, AT LEAST, DID NOT ACCORD WITH THE VIEWS OF THE MINISTRY OF TRANSPORT. WHERE ENTIRELY NEW ROADS HAVE BEEN OPENED, WIDTH OF ROADWAY, ALIGNMENT AND ENGINEERING FEATURES SHOW SPLENDID VISION IN PROVIDING FOR THE FUTURE. BUT IN ORDER TO MAKE THEM FULLY EFFECTIVE MUCH MORE WORK AND FURTHER EXPENDITURES ARE NECESSARY AND THIS IS THE DIFFICULT PROBLEM.

THE FEATURE OF THE WORK HERE WHICH DESERVES THE CLOSEST ATTENTION ON THE PART OF THE ENGINEERS OF THIS COUNTRY IS THE NEW ROADS WHICH ARE BEING LAID OUT TO BY-PASS THE CONGESTED STREETS OF VILLAGES AND TOWNS. A TYPICAL ILLUSTRATION OF THE FACT THAT HUMAN NATURE IS VERY MUCH THE SAME THE WORLD OVER, IS THE RECORD OF THE FIGHT MADE BY ONE OF THE TOWNS ESTABLISHED POSSIBLY DURING THE TIME OF WILLIAM THE CONQUEROR TO PREVENT A BY-PASS BEING CONSTRUCTED AROUND THE TOWN TO TAKE THE TRAFFIC OUT OF THE NARROW CROOKED STREETS OF A VERY DENSELY POPULATED DISTRICT. THE PROBLEM OF NEW BRIDGES OVER THE THAMES AND OPENING OF NEW TRAFFIC WAYS

IN LONDON COUNTY PRESENT PROBLEMS OF FIRST MAGNITUDE WHICH THE MINISTRY OF TRANSPORT IS NOW COURAGEOUSLY ATTACKING. IT IS DIFFICULT FOR US TO REALIZE IN THIS COUNTRY THE OBSTACLES IMPOSED BY THE TREMENDOUS WEIGHT ATTACHED TO PERSONAL AND PROPERTY RIGHTS IN GREAT BRITAIN. TO ILLUSTRATE; BECAUSE IN THE OLDEN DAYS THE CITY OF LONDON COLLECTED CUSTOMS AT ITS GATES, FARMERS HAVING SUPPLIES TO SELL FORMED THE HABIT OF STOPPING JUST OUTSIDE THE GATE AND THE PEOPLE CAME OUT FROM THE CITY TO BUY. SO GRADUALLY THERE WAS ESTABLISHED A MARKET. AT THE ALDGATE A HAY MARKET WAS ESTABLISHED. AS THE POPULATION SETTLED AND AS VILLAGES GREW UP ALL AROUND THE CITY OF LONDON, WHICH ITSELF IS JUST ONE MILE SQUARE, THE HAY MARKET STILL PERSISTED AND TODAY ONE OF THE MAIN TRAFFIC ARTERIES TO THE DOCKS AND WAREHOUSES NOW RUNS THROUGH THIS OLD MARKET. ON CERTAIN DAYS OF THE WEEK THE HAY CARTS ARE PARKED FROM CURB TO CURB LEAVING ONLY ROOM FOR PASSAGE OF THE STREET CARS IN THE CENTER. IT IS DOUBTFUL IF ANY AREA IN THIS COUNTRY PRESENTS AS COMPLEX AND DIFFICULT PROBLEMS AS THE LONDON COUNTY AREA IN THE IMMEDIATE VICINITY OF THE CITY OF LONDON, MANY OF WHICH EMANATE FROM ANCIENT RIGHTS, CUSTOMS AND TRADITIONS. THE COUNTRY ROADS ARE LARGELY OF MACADAM CONSTRUCTION, SURFACE OILED. THEY FIT INTO THE ENGLISH COUNTRYSIDE AND OFFER MOST DELIGHTFUL RECREATIONAL OPPORTUNITIES, BUT THEY CAN NOT SUPPLY THE FACILITIES NECESSARY TO HEAVY TRAFFIC ARTERIES.

IN SWEDEN EXPERIMENTAL ROADS OF DIFFERENT TYPES HAVE BEEN BUILT NEAR STOCKHOLM AND A VERY ACTIVE DEBATE IS TAKING PLACE AS TO THE BEST TYPES OF ROAD CONSTRUCTION. BUT THE REAL PROBLEM AT PRESENT IS TO RE-ALIGN, WIDEN AND GRADE THE OLD ROADS TO OFFER PROPER FACILITIES FOR MOTOR TRAFFIC.

IN AMSTERDAM, AS WOULD BE EXPECTED, THE FOUNDATION PROBLEM IS VERY IMPORTANT, BUT HIGH TECHNICAL SKILL HAS BEEN EXHIBITED IN THE CONSTRUCTION OF ROADWAYS. SOME OF THE BEST ASPHALT PAVEMENTS IN EUROPE ARE IN THIS CITY.

DENMARK IS SUPPLIED WITH AN ARTERIAL ROAD SYSTEM WITH AMPLE RIGHT OF WAY AND A LARGE MILEAGE OF STONE BLOCK PAVEMENTS. THERE ARE ALSO EXPERIMENTAL STRETCHES OF ROAD NEAR COPENHAGEN AND THERE IS A DEPARTURE FROM THE USUAL TYPE OF SUCH ROADS IN THAT PARALLEL LANES OF DIFFERENT MATERIALS HAVE BEEN BUILT AND THE TRAFFIC IS DIVIDED BETWEEN THE PNEUMATIC, SOLID RUBBER AND STEEL TIRED VEHICLES, EACH TAKING THE LANE PROVIDED FOR THAT PARTICULAR TYPE. ONE OF THE NOTABLE TYPES OF TRAFFIC HERE IS THE BICYCLE. IN A POPULATION OF 3,289,183, WE ARE TOLD THERE ARE ONE AND ONE-QUARTER MILLIONS OF BICYCLES, AND APPARENTLY MOST OF THESE ARE ON THE ROAD AT THE SAME TIME.

Contrast with the United States.

Considering the rural highways there are two outstanding contrasts between the United States and the countries here touched upon, the character and extent of highway traffic and the highway finances. The motor passenger car is regarded still, as in an earlier time in the United States, as a luxury and treated as such, and so it is a luxury. The prices of new cars are high, though there is a very rapidly growing production of lower priced types. Motor fuel is high. Annual taxes are high. Consequently the development of the use of passenger cars in any of these countries can not be remotely compared with the use in the United States. Driving over the national roads of France for example, once outside the immediate influence of a large city the motor traffic is so small, in fact all traffic is so limited, that it is evident there is a very different kind of life prevailing in the rural communities than that which exists here. While there is much very short radius motor traffic in the large cities, the people generally have not discovered the potentialities of motor transportation either for business or recreation. They have not yet found the way to know their own countryside, their country's scenic attractions or the commercial advantages of fast, convenient transportation. From a limited viewpoint, conditions appear very much as they did in this country ten or fifteen years ago, just before the avalanche of motor vehicles enveloped us. A similar turning to the use of motor vehicles will come but probably it will be somewhat reversed. Our private motors came first and the public later. Possibly in Europe the public motor vehicle may develop first in a large way, both busses and commercial haulers, to be followed by a large use of the private motor.

Financial Aspects.

Everywhere the highway officials are laboring under the severe handicap of lack of funds. When it is remembered how many of the European countries finance the entire cost of the national highways, it is easily understood, with the national treasuries and currencies in their present conditions, what great difficulties stand in the way of renewing and rebuilding their highways to modern standards. It is undoubtedly this situation that has turned Italy toward a favorable consideration of the motor toll road, privately owned.

IN VIEW OF THE DEMONSTRATED CAPACITY OF IMPROVED HIGHWAYS TO STIMULATE COMMERCE AND TO MAKE POSSIBLE NEW LINES OF PROFITABLE PRODUCTION, IT CAME AS A SHOCK WHEN WE WERE INFORMED THAT A BOND ISSUE FOR MUCH NEEDED REHABILITATION OF IMPORTANT HIGHWAYS IN ONE COUNTRY HAD BEEN FORBIDDEN BECAUSE SUCH EXPENDITURES ARE NOT CAPABLE OF PRODUCING A DIRECT RETURN -- PROOF UNANSWERABLE THAT IN HIGH PLACES MODERN HIGHWAY TRANSPORT IS BELIEVED A LUXURY AND NOT A COMMERCIAL NECESSITY.

SIMPLE BUT IMPORTANT CONCLUSIONS SHAPE THEMSELVES WITH THE PRESENT DAY HIGHWAY CONDITIONS OF EUROPE PROJECTED AGAINST THE BACKGROUND OF THE HIGHWAY HISTORY OF THE TWO THOUSAND YEARS SINCE THE BEGINNING OF THE APPIAN WAY, A SECTION OF WHICH MAY BE SEEN TODAY CROSSING THE CAMPAGNA, TOWARD THE ALBAN HILLS, PRESERVED AS AN INTERESTING AND VALUABLE HISTORICAL RECORD; BUT THE TRAFFIC IS CARRIED OVER ANOTHER HIGHWAY AND ITSELF HAS ABOUT THE SAME RELATIONSHIP TO MODERN ROAD BUILDING AS THE SKELETON OUTLINES OF THE CLIFF DWELLINGS IN OUR WEST HAVE TO MODERN ARCHITECTURE. THE LIKENESS TO THE ORIGINAL IS ABOUT THE SAME IN EACH.

HIGHWAYS ARE A THING OF SERVICE. SERVICE REQUIRES CHANGES; THEY MUST THEMSELVES CHANGE; AND TO PROVIDE ADEQUATE SERVICE OVER THE LARGEST POSSIBLE MILEAGE AND AT THE LEAST COST IS THE REQUIREMENT JUST NOW, AND THERE IS ABUNDANT EVIDENCE THAT THIS HAS ALWAYS BEEN THE POLICY WHEN EFFICIENT HIGHWAY SERVICE WAS REQUIRED OVER A LARGE AREA.

THIS BUILDING UP UNDER SERVICE, ONLY ANOTHER NAME FOR STAGE CONSTRUCTION, HAS ALWAYS PREVAILED. OUR ROADS MUST BE MAINTAINED AND STRENGTHENED, CERTAINLY AND CONSTANTLY, BUT THIS HAS ALWAYS BEEN THE CASE. REFERRING AGAIN TO THE APPIAN WAY, WE HAVE THE RECORD OF ITS BEING REPAIRED AND REBUILT FOR AT LEAST FIVE HUNDRED YEARS ALTHOUGH THE FIRST SECTION WAS, WE READ, SO EXPENSIVELY BUILT AS TO WRECK THE ROMAN TREASURY. HISTORY ASSERTS LOUDLY THE FACT THAT ONCE HE HAS SET TRAFFIC GOING OVER A HIGHWAY, THE WORK OF THE ENGINEER HAS JUST BEGUN.

AS TO STANDARDS OF CONSTRUCTION, THERE AGAIN IS FIXED ONLY THE ONE UNFAILING MEASURE, THAT OF ADEQUATE, SATISFACTORY SERVICE AT MINIMUM ANNUAL COST. NO MORE, NO LESS, IS NECESSARY.

ON THE OTHER HAND, WHAT TREMENDOUS SUPPORT HISTORY SUPPLIES FOR CORRECT PRINCIPLES OF ADMINISTRATION. FRANCE AND OTHER COUNTRIES WHICH FOR A LONG TIME, FROM 100 TO 150 YEARS, HAVE HAD AN ADEQUATELY PLANNED NATIONAL SYSTEM WITH THE ROADS CLASSIFIED

IN ACCORD WITH THEIR IMPORTANCE AND WITH A HIGHLY QUALIFIED TECHNICAL CORPS TO CARRY INTO EXECUTION THE ADMINISTRATIVE PRINCIPLES, HAVE TODAY A HERITAGE OF UNTOLD VALUE. THEIR NATIONAL ROADS HAVE RIGHT OF WAY WIDTHS, ALIGNMENT, GRADIENTS, COMPACTED ROAD BEDS AND FINE BRIDGES. THEY LACK IN MANY SECTIONS TOP SURFACING SUITABLE FOR HEAVY MOTOR TRAFFIC WHICH WILL BE SUPPLIED AS IT BECOMES POSSIBLE. THIS GREAT HERITAGE FOR FUTURE GENERATIONS IS NOT A PRODUCT OF EXTRAORDINARY EXPENDITURES BUT RATHER THE ACCUMULATED RESULT OF YEARS OF CONSISTENTLY FOLLOWING OUT RIGHT PRINCIPLES OF ADMINISTRATION.

FRANCE IS NOT LARGE - ABOUT 200,000 SQUARE MILES - AS COMPARED TO THE UNITED STATES - ABOUT 3,000,000 SQUARE MILES, AND IN THIS GREAT NATIONAL AREA WE ARE ATTEMPTING TO SECURE THROUGH COOPERATION BETWEEN THE STATES AND THE FEDERAL GOVERNMENT UNDER THE FEDERAL HIGHWAY LEGISLATION, NATIONAL ROUTES OF HIGH STANDARDS. THE PROGRESS HAS BEEN SUCH THAT THE EYES OF THE ROAD BUILDERS OF THE OLDER COUNTRIES ARE NOW TURNED THIS WAY AND THE METHODS AND RESULTS HERE WILL EXERT A PROFOUND INFLUENCE IN OTHER NATIONS. THIS IS VOICED IN NO VAIN OR BOASTING SPIRIT. RATHER IT IS ONLY TO BUILD ANY FURTHER PROTECTION POSSIBLE THAT WILL GUARD AGAINST ANY BREAKDOWN OF THE SPIRIT OF COOPERATION BETWEEN THE STATES AND THE FEDERAL GOVERNMENT.

THIS WOULD BRING DISASTER TO THE COMPLETION OF A NATIONAL SYSTEM OF HIGHWAYS. NO ONE CAN STUDY THE RISE AND FALL OF HIGHWAY PROGRESS THROUGH THE YEARS OR OBSERVE THE EXISTING EVIDENCE WITHOUT BEING FORCED TO THIS CONCLUSION.

United States Department of Agriculture
Bureau of Public Roads

STATISTICAL DATA RELATING TO RURAL ROAD FINANCES OF UNITED STATES

Issued November 1, 1926

	Year	Fiscal Year Ended June 30	Calendar Year Ended Dec. 31
(1) STATE AND LOCAL TOTAL DISBURSEMENTS	1923	--	$ 996,781,038
on rural roads and bridges; total of	1924	--	1,181,521,115
items 2 and 3	1925	--	1,288,939,707
* (Conservative estimate 1926)	1926	--	* 1,310,000,000
(2) STATE HIGHWAY EXPENDITURES	1923	--	$ 447,362,358
for roads under State supervision	1924	--	605,665,207
	1925	--	649,125,101
* (Conservative estimate 1926)	1926	--	* 675,000,000
(3) LOCAL ROAD EXPENDITURES	1923	--	$ 549,418,680
for county, town and district roads	1924	--	575,855,908
	1925	--	639,814,606
* (Conservative estimate 1926)	1926	--	* 635,000,000
(4) FEDERAL AID ROAD FUNDS	1923	$ 69,677,242	$ 74,883,783
paid to States on completed work	1924	79,217,398	96,148,474
included in item 2	1925	95,749,998	90,441,339
* (Estimate based on 10 months, 1926)	1926	87,754,535	* 85,000,000
(5) MOTOR VEHICLE FEES, ETC., (Gross Receipts)	1923	$ 185,123,256	$ 188,970,992
for licenses, tags, etc.	1924	220,202,736	225,492,252
	1925	252,265,089	260,619,621
* (Estimate based on 6 months, 1926)	1926	292,153,251	* 298,000,000
(6) GASOLINE TAX NET RECEIPTS	1923	$ 17,212,677	$ 38,566,338
assessed on gallons consumed by motor	1924	63,196,413	80,442,295
vehicles.	1925	106,467,028	148,358,087
* (Estimate based on 6 months, 1926)	1926	173,150,543	* 192,000,000
(7) U.S. EXCISE TAX ON AUTOMOBILES, ETC.	1923	$ 144,290,490	$ 155,796,944
Internal Revenue on sales by manufacturers	1924	158,014,709	139,201,755
paid by purchasers. * (Estimate based on	1925	124,686,745	143,430,709
9 mos. Tax partially repealed Feb.26,1926)	1926	138,155,195	* 95,600,000
(8) U.S. SPECIAL TAX ON PASSENGER AUTOS	1923	$ 1,907,400	$ 2,088,086
For Hire (Internal Revenue)	1924	2,013,839	1,893,586
	1925	1,865,075	1,871,084
* (6 months only;law repealed Mar. 29, 1926)	1926	1,646,797	* 176,815
(9) PROPERTY TAXES levied on motor vehicles	1923	$ --	$ * 75,000,000
by State, county and municipality.	1924	--	* 105,000,000
	1925	--	* 130,000,000
* Largely estimates, all years.	1926	--	* 140,000,000
(10) SURFACED ROADS (STATE AND LOCAL)			Miles
Mileage existing at end of year	1923	--	439,341
	1924	--	471,667
	1925	--	521,915
* (Estimate based on road program, 1926)	1926	--	* 565,000
(11) MOTOR VEHICLES REGISTERED (Number of)		(1st 6 months)	Number
excluding tax-exempt cars	1923	13,002,427	15,090,936
	1924	15,556,518	17,593,677
	1925	17,770,691	19,954,347
* Estimated from past years.	1926	19,697,832	* 21,886,000
(12) GASOLINE CONSUMED BY MOTOR VEHICLES		(1st 6 months)	Gallons
based on gas tax (actual and estimated)	1923	--	--
for all but 4 States (which do not tax	1924	--	--
gasoline)	1925	3,125,941,784	6,948,240,613
* Estimate.	1926	3,560,987,586	* 8,012,500,000

Note: Further information on above data obtainable upon application. Any differences of figures noted from former published data are due to corrections.

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Public Roads

ROAD MILEAGE CONSTRUCTED and RECONSTRUCTED DURING 1925,
by BOTH STATE and LOCAL AUTHORITIES

States	Mileage Built Including Surfacing	Earth Rd	Graded & Drained		Miles Surfaced & Resurfaced		
		State & Local	State Highways	Local Roads	State & Local	State Highways	Local Roads
Alabama	571	174	17	157	397	267	130
Arizona	213	83	8	75	130	84	46
Arkansas	1,186	500	300	200	686	586	100
California	1,518	682	132	550	836	257	579
Colorado	1,524	1,097	161	936	427	125	302
Connecticut	127	2	2		125	112	13
Delaware	86	2		2	84	73	11
Florida	1,722	689	1	688	1,033	218	815
Georgia	845	345	15	330	500	232	268
Idaho	1,550	896	26	870	654	204	450
Illinois	1,389	285	135	150	1,104	733	371
Indiana	1,036	26	26		1,010	306	704
Iowa	992				992	348	644
Kansas	1,406	928	172	756	478	129	349
Kentucky	643	176	176		467	207	260
Louisiana	509				509	424	85
Maine	326				326	46	280
Maryland	365	30		30	335	185	150
Massachusetts	219				219	88	131
Michigan	1,064	61		61	1,003	437	566
Minnesota	2,774	328	328		2,446	550	1,896
Mississippi	1,247	349	8	341	898	64	834
Missouri	3,262	417	417		2,845	1,260	1,585
Montana	266	7	7		259	139	120
Nebraska	2,855	1,711	465	1,246	1,144	967	177
Nevada	471	210	45	165	261	206	55
New Hampshire	156	6	6		150	140	10
New Jersey	549	60		60	489	84	405
New Mexico	269	96	15	81	173	138	35
New York	2,068	1	1		2,067	589	1,478
North Carolina	2,627	923	505	418	1,704	977	727
North Dakota	1,173	580	426	154	593	262	331
Ohio	2,148	82	82		2,066	1,286	780
Oklahoma	522	217	200	17	305	267	38
Oregon	1,119	332	78	254	787	204	583
Pennsylvania	1,700				1,700	1,013	687
Rhode Island	86				86	38	48
South Carolina	978	8	8		970	242	728
South Dakota	3,147	2,266	663	1,603	881	551	330
Tennessee	885	100	85	15	785	291	494
Texas	2,051	666	361	305	1,385	1,028	357
Utah	281	100		100	181	121	60
Vermont	274				274	199	75
Virginia	973	220	29	191	753	173	580
Washington	1,132	323	51	272	809	287	522
West Virginia	881	479	260	219	402	285	117
Wisconsin	6,058				6,058	1,316	4,742
Wyoming	456	339	105	234	117	98	19
Totals	(1) 57,699	(1)15,796	5,316	10,480	41,903	17,836	24,067

NOTE: (1) Earth road mileage partially graded excluded here.

THE 1926 ROAD STATUS SURVEY

THE DIVISION OF CONTROL HAS DISTRIBUTED BLANKS TO BE USED IN THE LOCAL RURAL ROAD STATUS SURVEY FOR 1926. THE PREVIOUS DETAILED SURVEYS OF THIS CHARACTER WERE MADE IN 1904, 1909, 1914, AND 1921. THE GENERAL PLAN HAS BEEN TO ESTABLISH AN ACCURATE BASE SURVEY EVERY FIVE YEARS AND TO ADD TO THIS FIGURE IN THE INTERIM BY ANNUAL SURVEYS WHICH ARE MADE WITH LESS ATTENTION TO DETAIL. IN THIS WAY ERRORS IN MILEAGE WHICH CREEP INTO THE ANNUAL FIGURES ARE ADJUSTED EVERY 5 YEARS.

THE BLANKS HAVE BEEN PREPARED WITH THE IDEA OF ELIMINATING ALL UNNECESSARY INFORMATION AND THE DATA WERE REQUESTED IN THE FORM IN WHICH THEY ARE MOST GENERALLY AVAILABLE THROUGHOUT THE COUNTRY. THIS YEAR NO ATTEMPT WILL BE MADE TO SECURE INFORMATION FOR CITIES OR TOWNS WITH A POPULATION IN EXCESS OF 2500.

WHEN THE 1926 SURVEY IS COMPLETED THE DATA WILL BE TABULATED AND PUBLISHED IN BULLETIN FORM BY COUNTIES IF POSSIBLE. HITHERTO THE COUNTY DATA HAVE NOT BEEN PUBLISHED BUT THERE HAVE BEEN SO MANY REQUESTS FOR THE INFORMATION SEGREGATED BY SPECIFIC COUNTIES THAT EVERY EFFORT WILL BE MADE TO COMPILE THE STATISTICS IN THIS FORM IN THE FUTURE.

PREVIOUSLY THE STATISTICAL ENGINEERS IN EACH DISTRICT WHO HAVE ASSEMBLED THE INFORMATION HAVE POSTPONED THE FORWARDING OF THE DATA TO THE WASHINGTON OFFICE UNTIL IT HAS BEEN COMPLETELY COMPILED. THIS HAS RESULTED IN CONSIDERABLE DELAY IN SOME CASES. IT IS PREFERRED THAT THE INFORMATION FOR EACH COUNTY BE FORWARDED AS SOON AS COMPLETED. THE HEADQUARTERS OFFICE MAY THEN PROGRESSIVELY COMPILE THE STATISTICS AND CONGESTION AT THE LAST MINUTE WILL BE AVOIDED. THIS METHOD WILL NOT INCONVENIENCE THE STATISTICAL ENGINEERS SINCE THEY KEEP IN THEIR OWN RECORDS A COPY OF ALL DATA AND IT SHOULD RESULT IN SPEEDING UP THE PUBLICATION OF THE DATA IN BULLETIN FORM.

UNITED STATES HIGHWAYS MAP APPROVED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS

CONTRIBUTED BY E. W. JAMES, CHIEF OF THE DIVISION OF DESIGN.

THE REVISED MAP OF THE UNITED STATES HIGHWAY ROUTES AS APPROVED BY THE EXECUTIVE COMMITTEE WAS ADOPTED AS SUBMITTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS AT THE RECENT PINEHURST, NORTH CAROLINA, MEETING. AT THE SAME TIME A FEW REQUESTS FOR REVISIONS WHICH HAD BEEN RECEIVED WERE REFERRED FOR FURTHER INVESTIGATION BECAUSE THEY APPEARED TO BE OF DOUBTFUL IMPORTANCE. NO PROVISION WAS MADE FOR REOPENING THE CONSIDERATION OF THE SELECTION OF ROUTES. IT IS BELIEVED THAT THERE HAS BEEN AMPLE TIME FOR A COMPLETE DISCUSSION OF ADDITIONS, CHANGES, OR REVISIONS OF THE ORIGINAL REPORT OF THE JOINT BOARD AND THAT ANY FURTHER DELAY IN ADOPTING THE PROGRAM AND ISSUING ANY OFFICIAL MAP WILL MILITATE AGAINST THE DEVELOPMENT OF THE SYSTEM WITHIN A REASONABLE TIME.

THE COPY FOR THE MAP IS COMPLETED AND WILL GO TO PRESS AS SOON AS THERE IS SPACE IN THE PRESS ROOM OF THE U. S. GEOLOGICAL SURVEY. THE MAP WILL BE ISSUED IN TWO SIZES. THE LARGER ONE WILL HAVE A SCALE OF ONE INCH EQUALS 37 MILES AND THE SMALLER ONE WILL BE ONE INCH EQUALS 75 MILES. THE SMALLER MAP WILL BE FOR GENERAL DISTRIBUTION AND A LARGE NUMBER OF COPIES OF THIS SIZE ARE EXPECTED TO BE OFF THE PRESS BY DECEMBER 1, 1926.

THE MANUAL AND SPECIFICATIONS FOR THE MANUFACTURE AND ERECTION OF THE MARKERS AND OF THE DIRECTION, INFORMATION, DANGER, AND CAUTION SIGNS WAS PRESENTED IN FINAL FORM AT THE MEETING BUT NOT FINALLY ADOPTED. THE APPROVAL OF THE COMMITTEE WAS WITHHELD PENDING THE ADOPTION OF AN ADJUSTMENT RELATIVE TO A DETAIL OF THE NON-LUMINOUS STOP SIGN, BY THE AMERICAN ENGINEERING STANDARDS COMMITTEE. THE APPROVAL OF THIS BODY IS EXPECTED TO BE GIVEN AT THE NEXT MEETING OF THEIR COLOR CODE SECTIONAL COMMITTEE. THE MANUAL WILL THEN BE SUBMITTED TO THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS FOR FINAL APPROVAL BY LETTER BALLOT.

AT THE TIME OF THE ADOPTION OF THE REPORT OF THE JOINT BOARD LAST YEAR, THE ASSOCIATION ADOPTED CERTAIN RECOMMENDATIONS FOR STANDARD SIGNS AND MARKERS. SKETCHES OF THE PROPOSED STANDARDS WERE PRESENTED AS A PART OF THOSE RECOMMENDED ITEMS.

It was necessary that the Committee on Traffic Control and Safety of the Association continue to develop the detailed designs for signs and markers, to prepare specifications for manufacturing, and to draft a manual to guide the States in the uniform use and erection of the signs. During the progress of this work which is now completed the industry was fully consulted and the final specifications are so drafted as to produce a first-class quality of work at reasonable prices, based closely on prevailing shop prices. It would have been easy to write specifications that would have made costs almost prohibitive and to avoid this a study has been made of shop and foundry practice in the embossed-metal, vitrified-enamel, cast-aluminum, cast-steel and cast-iron trades. The specifications are in accord with the latest, best, and most economical practice so far developed.

TWENTY-TWO STATES HAVE MARKED THE UNITED STATES HIGHWAYS

Standard markers, direction, information, danger and caution signs were erected on all or nearly all of the United States highways in 22 States on November 1, 1926. These States were: Arizona, Colorado, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, Ohio, Oklahoma, Oregon, Rhode Island, South Dakota, Tennessee, Vermont, Wisconsin, and Wyoming. In 10 other States the signing was partially completed on that date. These States were: Arkansas, Connecticut, Kentucky, Mississippi, New Hampshire, New Mexico, North Carolina, North Dakota, South Carolina and West Virginia. In the other 16 States no marking had been begun on November 1.

TOTAL LOCAL ROAD INCOME AND FUNDS AVAILABLE

FOR USE OF LOCAL AUTHORITIES (COUNTY, TOWN AND DISTRICT)
ON LOCAL ROADS AND BRIDGES, DURING YEAR 1925

STATES	TOTAL FUNDS AVAILABLE	BALANCE FROM PREVIOUS YEAR	TOTAL INCOME	RECEIPTS FROM BONDS AND NOTES	TAXES AND APPROPRIATIONS	MOTOR VEHICLE LICENSE FEES (LOCAL SHARE)	GASOLINE TAX (LOCAL SHARE)	FUNDS TRANSFERRED FROM STATE	MISCELLANEOUS INCOME	STATES
ALABAMA	$ 8,621,166	$ 493,802	$ 8,127,364	$ 400,594	$ 3,958,513	$ 143,436	$ 2,095,123	$ 1,425,986	$ 103,712	ALABAMA
ARIZONA	1,782,903	191,355	1,591,548	--	917,952	414,662	--	163,253	95,681	ARIZONA
ARKANSAS	14,000,000	--	14,000,000	2,300,000	8,700,000	3,000,000	--	--	--	ARKANSAS
CALIFORNIA	29,577,689	--	29,577,689	3,016,455	16,901,226	2,531,920	6,959,721	--	168,367	CALIFORNIA
COLORADO	5,424,975	425,794	4,999,181	44,669	2,769,713	414,373	807,833	145,468	817,125	COLORADO
CONNECTICUT	2,438,592	20,000	2,418,592	--	2,418,592	--	--	--	--	CONNECTICUT
DELAWARE	3,347,117	125,921	3,221,196	1,881,371	1,234,966	73,336	--	31,000	523	DELAWARE
FLORIDA	40,982,260	11,061,307	29,920,953	16,024,873	9,293,730	776,461	1,643,224	613,887	1,568,778	FLORIDA
GEORGIA	13,678,103	880,883	12,797,220	941,110	9,490,498	--	1,243,542	914,961	207,109	GEORGIA
IDAHO 1/	5,474,647	400,000	5,074,647	500,000	2,000,000	1,037,226	--	--	1,537,421	IDAHO
ILLINOIS	9,523,627	173,110	9,350,517	--	9,048,612	--	--	--	301,905	ILLINOIS
INDIANA	44,881,722	9,572,184	35,309,538	9,946,871	24,067,924	--	979,884	--	314,859	INDIANA
IOWA	23,315,152	3,580,139	19,735,013	180,000	15,532,438	462,673	885,144	1,772,389	902,369	IOWA
KANSAS	19,368,851	3,452,597	15,916,254	1,235,892	13,585,466	1,094,896	--	--	--	KANSAS
KENTUCKY	7,244,814	22,455	7,222,359	1,000,000	5,562,194	400,224	--	--	259,941	KENTUCKY
LOUISIANA	12,660,000	910,000	11,750,000	6,340,000	5,200,000	--	--	--	210,000	LOUISIANA
MAINE	3,897,411	--	3,897,411	--	3,897,411	--	--	--	--	MAINE
MARYLAND	3,503,147	86,190	3,416,957	503,459	2,913,498	--	--	--	--	MARYLAND
MASSACHUSETTS	14,000,000	--	14,000,000	--	13,800,000	--	--	--	200,000	MASSACHUSETTS
MICHIGAN	32,416,448	7,668,000	24,748,448	2,279,500	13,412,200	5,263,148	--	2,877,600	916,000	MICHIGAN
MINNESOTA	28,659,019	--	28,659,019	10,750,000	15,996,004	--	--	1,613,015	300,000	MINNESOTA
MISSISSIPPI	27,856,305	7,522,040	20,334,265	3,532,046	12,363,558	1,527,816	1,198,398	1,431,952	280,495	MISSISSIPPI
MISSOURI	10,638,145	929,500	9,708,645	405,454	8,800,297	--	--	176,852	326,042	MISSOURI
MONTANA	3,996,070	847,390	3,148,680	105,171	1,835,381	861,327	209,906	7,348	129,547	MONTANA
NEBRASKA	13,323,802	3,512,493	9,811,309	--	7,419,653	2,210,314	--	--	181,342	NEBRASKA
NEVADA	621,424	--	621,424	--	404,757	1,517	203,834	--	11,316	NEVADA
NEW HAMPSHIRE	1,561,456	--	1,561,456	--	1,555,623	--	--	--	5,833	NEW HAMPSHIRE
NEW JERSEY	32,644,559	1,114,004	31,530,555	17,829,696	9,931,646	3,603,806	--	93,262	72,145	NEW JERSEY
NEW MEXICO	565,367	66,167	499,200	--	351,148	86,564	--	28,795	32,693	NEW MEXICO
NEW YORK	44,331,158	2,100,000	42,231,158	3,187,000	28,006,386	3,889,422	--	7,148,350	--	NEW YORK
NORTH CAROLINA	15,260,000	--	15,260,000	3,960,000	11,300,000	--	--	--	--	NORTH CAROLINA
NORTH DAKOTA	4,378,432	--	4,378,432	--	3,376,045	350,000	--	202,387	450,000	NORTH DAKOTA
OHIO	62,754,600	8,141,600	54,613,000	8,291,900	31,724,400	6,573,600	2,283,400	--	5,739,700	OHIO
OKLAHOMA	19,474,880	--	19,474,880	4,500,000	7,702,120	3,978,022	1,791,620	--	1,503,118	OKLAHOMA
OREGON	14,661,760	1,046,279	13,615,481	1,937,004	8,275,418	1,204,825	72,299	1,039,621	1,086,314	OREGON
PENNSYLVANIA	46,700,000	5,800,000	40,900,000	10,400,000	24,900,000	--	2,000,000	2,400,000	1,200,000	PENNSYLVANIA
RHODE ISLAND	871,952	86,817	785,135	150,000	602,615	--	--	--	32,520	RHODE ISLAND
SOUTH CAROLINA	14,507,694	6,351,134	8,156,560	2,068,521	2,244,258	--	1,186,422	2,000,826	657,533	SOUTH CAROLINA
SOUTH DAKOTA	7,048,738	--	7,048,738	155,000	5,557,323	1,173,654	--	162,761	--	SOUTH DAKOTA
TENNESSEE	32,729,001	11,928,469	20,800,532	11,616,345	6,901,256	1,650,518	--	155,749	476,664	TENNESSEE
TEXAS	30,333,600	--	30,333,600	9,700,000	16,500,000	3,633,600	--	--	500,000	TEXAS
UTAH	3,300,000	--	3,300,000	--	2,000,000	--	--	--	1,300,000	UTAH
VERMONT	1,075,000	--	1,075,000	--	1,075,000	--	--	--	--	VERMONT
VIRGINIA	9,906,800	1,099,800	8,807,000	1,036,700	5,662,700	--	1,232,000	642,500	233,100	VIRGINIA
WASHINGTON	8,615,327	705,290	7,910,037	1,327,985	5,418,217	188,105	42,629	246,824	686,277	WASHINGTON
WEST VIRGINIA	17,254,200	7,568,300	9,685,900	1,865,500	7,611,700	--	--	--	208,700	WEST VIRGINIA
WISCONSIN	31,000,504	--	31,000,504	5,000,000	20,029,000	--	--	5,098,860	872,644	WISCONSIN
WYOMING	704,312	12,067	692,245	--	575,789	--	--	40,195	76,261	WYOMING
TOTALS	$780,912,729	$ 97,895,087	$683,017,642	$144,413,116	$ 412,825,227	$ 46,545,445	$ 24,833,979	$30,433,841	$ 23,966,034	TOTALS

REMARKS: THE DATA SHOWN HERE ARE PARTLY ESTIMATED IN SOME STATES, AND ARE THE ONLY AVAILABLE FIGURES OBTAINABLE BY THIS BUREAU.

NOTES: 1/ DETAILS LARGELY ESTIMATES BASED ON PREVIOUS YEARLY DATA.

TOTAL LOCAL ROAD INCOME AND FUNDS AVAILABLE

FOR USE OF LOCAL AUTHORITIES (COUNTY, TOWN AND DISTRICT)
ON LOCAL ROADS AND BRIDGES, DURING YEAR 1925

STATES	TOTAL FUNDS AVAILABLE	BALANCE FROM PREVIOUS YEAR	TOTAL INCOME	RECEIPTS FROM BONDS AND NOTES	TAXES AND APPROPRIATIONS	MOTOR VEHICLE LICENSE FEES (LOCAL SHARE)	GASOLINE TAX (LOCAL SHARE)	FUNDS TRANSFERRED FROM STATE	MISCELLANEOUS INCOME	STATES
ALABAMA	$ 8,621,166	$ 493,802	$ 8,127,364	$ 400,594	$ 3,958,513	$ 143,436	$ 2,095,123	$ 1,425,986	$ 103,712	ALABAMA
ARIZONA	1,782,903	191,355	1,591,548	--	917,952	414,662	--	163,253	95,681	ARIZONA
ARKANSAS	14,000,000	--	14,000,000	2,300,000	8,700,000	3,000,000	--	--	--	ARKANSAS
CALIFORNIA	29,577,689	--	29,577,689	3,016,455	16,901,226	2,531,920	6,959,721	--	168,367	CALIFORNIA
COLORADO	5,424,975	425,794	4,999,181	44,669	2,769,713	414,373	807,833	145,468	817,125	COLORADO
CONNECTICUT	2,438,592	20,000	2,418,592	--	2,418,592	--	--	--	--	CONNECTICUT
DELAWARE	3,347,117	125,921	3,221,196	1,881,371	1,234,966	73,336	--	31,000	523	DELAWARE
FLORIDA	40,982,260	11,061,307	29,920,953	16,024,873	9,293,730	776,461	1,643,224	613,887	1,568,778	FLORIDA
GEORGIA	13,678,103	880,883	12,797,220	941,110	9,490,498	--	1,243,542	914,961	207,109	GEORGIA
IDAHO 1/	5,474,647	400,000	5,074,647	500,000	2,000,000	1,037,226	--	--	1,537,421	IDAHO
ILLINOIS	9,523,627	173,110	9,350,517	--	9,048,612	--	--	--	301,905	ILLINOIS
INDIANA	44,881,722	9,572,184	35,309,538	9,946,871	24,067,924	--	979,884	--	314,859	INDIANA
IOWA	23,315,152	3,580,139	19,735,013	180,000	15,532,438	462,673	885,144	1,772,389	902,369	IOWA
KANSAS	19,368,851	3,452,597	15,916,254	1,235,892	13,585,466	1,094,896	--	--	--	KANSAS
KENTUCKY	7,244,814	22,455	7,222,359	1,000,000	5,562,194	400,224	--	--	259,941	KENTUCKY
LOUISIANA	12,660,000	910,000	11,750,000	6,340,000	5,200,000	--	--	--	210,000	LOUISIANA
MAINE	3,897,411	--	3,897,411	--	3,897,411	--	--	--	--	MAINE
MARYLAND	3,503,147	86,190	3,416,957	503,459	2,913,498	--	--	--	--	MARYLAND
MASSACHUSETTS	14,000,000	--	14,000,000	--	13,800,000	--	--	--	200,000	MASSACHUSETTS
MICHIGAN	32,416,448	7,668,000	24,748,448	2,279,500	13,412,200	5,263,148	--	2,877,600	916,000	MICHIGAN
MINNESOTA	28,659,019	--	28,659,019	10,750,000	15,996,004	--	--	1,613,015	300,000	MINNESOTA
MISSISSIPPI	27,856,305	7,522,040	20,334,265	3,532,046	12,363,558	1,527,816	1,198,398	1,431,952	280,495	MISSISSIPPI
MISSOURI	10,638,145	929,500	9,708,645	405,454	8,800,297	--	--	176,852	326,042	MISSOURI
MONTANA	3,996,070	847,390	3,148,680	105,171	1,835,381	861,327	209,906	7,348	129,547	MONTANA
NEBRASKA	13,323,802	3,512,493	9,811,309	--	7,419,653	2,210,314	--	--	181,342	NEBRASKA
NEVADA	621,424	--	621,424	--	404,757	1,517	203,834	--	11,316	NEVADA
NEW HAMPSHIRE	1,561,456	--	1,561,456	--	1,555,623	--	--	--	5,833	NEW HAMPSHIRE
NEW JERSEY	32,644,559	1,114,004	31,530,555	17,829,696	9,931,646	3,603,806	--	93,262	72,145	NEW JERSEY
NEW MEXICO	565,367	66,167	499,200	--	351,148	86,564	--	28,795	32,693	NEW MEXICO
NEW YORK	44,331,158	2,100,000	42,231,158	3,187,000	28,006,386	3,889,422	--	7,148,350	--	NEW YORK
NORTH CAROLINA	15,260,000	--	15,260,000	3,960,000	11,300,000	--	--	--	--	NORTH CAROLINA
NORTH DAKOTA	4,378,432	--	4,378,432	--	3,376,045	350,000	--	202,387	450,000	NORTH DAKOTA
OHIO	62,754,600	8,141,600	54,613,000	8,291,900	31,724,400	6,573,600	2,283,400	--	5,739,700	OHIO
OKLAHOMA	19,474,880	--	19,474,880	4,500,000	7,702,120	3,978,022	1,791,620	--	1,503,118	OKLAHOMA
OREGON	14,661,760	1,046,279	13,615,481	1,937,004	8,275,418	1,204,825	72,299	1,039,621	1,086,314	OREGON
PENNSYLVANIA	46,700,000	5,800,000	40,900,000	10,400,000	24,900,000	--	2,000,000	2,400,000	1,200,000	PENNSYLVANIA
RHODE ISLAND	871,952	86,817	785,135	150,000	602,615	--	--	--	32,520	RHODE ISLAND
SOUTH CAROLINA	14,507,694	6,351,134	8,156,560	2,068,521	2,244,258	--	1,186,422	2,000,826	657,533	SOUTH CAROLINA
SOUTH DAKOTA	7,048,738	--	7,048,738	155,000	5,557,323	1,173,654	--	162,761	--	SOUTH DAKOTA
TENNESSEE	32,729,001	11,928,469	20,800,532	11,616,345	6,901,256	1,650,518	--	155,749	476,664	TENNESSEE
TEXAS	30,333,600	--	30,333,600	9,700,000	16,500,000	3,633,600	--	--	500,000	TEXAS
UTAH	3,300,000	--	3,300,000	--	2,000,000	--	--	--	1,300,000	UTAH
VERMONT	1,075,000	--	1,075,000	--	1,075,000	--	--	--	--	VERMONT
VIRGINIA	9,906,800	1,099,800	8,807,000	1,036,700	5,662,700	--	1,232,000	642,500	233,100	VIRGINIA
WASHINGTON	8,615,327	705,290	7,910,037	1,327,985	5,418,217	188,105	42,629	246,824	686,277	WASHINGTON
WEST VIRGINIA	17,254,200	7,568,300	9,685,900	1,865,500	7,611,700	--	--	--	208,700	WEST VIRGINIA
WISCONSIN	31,000,504	--	31,000,504	5,000,000	20,029,000	--	--	5,098,860	872,644	WISCONSIN
WYOMING	704,312	12,067	692,245	--	575,789	--	--	40,195	76,261	WYOMING
TOTALS	$780,912,729	$ 97,895,087	$683,017,642	$144,413,116	$ 412,825,227	$ 46,545,445	$ 24,833,979	$30,433,841	$ 23,966,034	TOTALS

REMARKS: THE DATA SHOWN HERE ARE PARTLY ESTIMATED IN SOME STATES, AND ARE THE ONLY AVAILABLE FIGURES OBTAINABLE BY THIS BUREAU.

NOTES: 1/ DETAILS LARGELY ESTIMATES BASED ON PREVIOUS YEARLY DATA.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS

F-5 (1925)
R.S.A.

TOTAL LOCAL DISBURSEMENTS

BY LOCAL AUTHORITIES (COUNTY, TOWN AND DISTRICT)

ON LOCAL ROADS AND BRIDGES, DURING YEAR 1925

STATES	TOTAL DISBURSEMENTS COUNTY, TOWN & LOCAL ROADS	CONSTRUCTION COUNTY AND TOWN ROADS	MAINTENANCE COUNTY AND TOWN ROADS	OVERHEAD EXPENSES (WHEN REPORTED)	BONDS, NOTE PAYMENTS, PRINCIPAL	BONDS AND NOTE PAYMENTS OF INTEREST	FUNDS TRANSFERRED TO STATE	MISCELLANEOUS EXPENSES	UNEXPENDED BALANCE AT END OF YEAR	STATES
ALABAMA	$ 7,942,861	$ 1,024,605	$ 3,912,106	$ 54,648	$ 288,222	$ 1,557,293	$ 573,870	$ 532,117	$ 678,305	ALABAMA
ARIZONA	1,605,112	589,675	760,533	65,840	--	--	--	189,064	177,791	ARIZONA
ARKANSAS	11,160,000	1,200,000	2,000,000	--	2,600,000	3,200,000	2,160,000	--	2,840,000	ARKANSAS
CALIFORNIA	29,577,689	6,855,384	16,986,179	367,910	2,512,584	2,248,992	--	606,640	--	CALIFORNIA
COLORADO	4,955,371	1,100,299	2,589,700	115,611	--	--	447,610	702,151	469,604	COLORADO
CONNECTICUT	2,409,327	544,057	1,865,270	--	--	--	--	--	29,265	CONNECTICUT
DELAWARE	2,668,288	489,577	349,177	21,661	213,616	162,870	1,384,523	46,864	678,829	DELAWARE
FLORIDA	23,124,462	11,508,585	4,463,933	400,506	1,586,799	3,558,875	1,103,962	501,802	17,857,798	FLORIDA
GEORGIA	13,038,031	2,067,234	5,784,856	63,267	546,738	1,138,408	2,871,476	566,052	640,072	GEORGIA
IDAHO	3,960,413	2,500,000	1,460,413	--	--	--	--	--	1,514,234	IDAHO
ILLINOIS	8,777,604	3,484,372	4,009,117	237,875	739,800	254,130	--	52,310	746,023	ILLINOIS
INDIANA	35,472,865	12,005,302	7,900,154	--	11,026,462	4,395,162	--	145,785	9,408,857	INDIANA
IOWA	19,053,072	7,595,453	9,404,113	536,867	966,412	--	--	550,227	4,262,080	IOWA
KANSAS	15,152,541	13,156,316	1,485,873	510,352	-	--	--	--	4,216,310	KANSAS
KENTUCKY	7,202,136	2,340,405	3,357,370	318,132	405,408	584,561	--	196,260	42,678	KENTUCKY
LOUISIANA	9,946,583	1,800,000	2,750,000	--	1,200,000	1,750,000	2,446,583	--	2,713,417	LOUISIANA
MAINE	3,897,411	--	3,897,411	--	--	--	--	--	--	MAINE
MARYLAND	3,528,008	979,198	1,779,732	40,758	216,826	304,480	--	207,014	1/ (24,861)	MARYLAND
MASSACHUSETTS	14,000,000	7,500,000	6,500,000	--	--	--	--	--	--	MASSACHUSETTS
MICHIGAN	24,708,900	11,803,900	4,736,700	1,355,100	3,205,412	1,534,488	--	2,073,300	7,707,548	MICHIGAN
MINNESOTA	26,389,225	12,275,000	9,666,225	1,048,000	--	500,000	--	2,500,000	2,269,794	MINNESOTA
MISSISSIPPI	20,116,750	5,297,969	8,671,510	109,476	2,247,106	2,890,327	457,753	442,609	7,739,555	MISSISSIPPI
MISSOURI	9,630,409	7,536,963	1,499,093	331,178	124,909	99,076	--	39,190	1,007,736	MISSOURI
MONTANA	3,252,937	686,781	1,997,371	143,388	55,320	192,674	--	177,403	743,133	MONTANA
NEBRASKA	10,477,187	7,164,828	2,780,300	101,039	295,482	73,935	--	61,603	2,846,615	NEBRASKA
NEVADA	656,087	128,358	335,679	9,765	88,700	66,537	--	27,048	1/ (34,663)	NEVADA
NEW HAMPSHIRE	1,561,456	163,968	1,310,022	--	--	--	--	87,466	--	NEW HAMPSHIRE
NEW JERSEY	31,530,564	4,571,886	4,631,133	400,242	19,561,750	2,362,832	--	2,711	1,114,005	NEW JERSEY
NEW MEXICO	446,339	101,176	250,979	22,741	--	--	23,550	47,893	119,028	NEW MEXICO
NEW YORK	40,014,393	27,802,183	3,457,122	739,539	1,744,882	1,389,800	--	4,880,867	4,316,765	NEW YORK
NORTH CAROLINA	14,210,000	4,370,000	4,320,000	245,000	1,500,000	3,300,000	--	475,000	1,050,000	NORTH CAROLINA
NORTH DAKOTA	4,347,400	3,702,000	485,500	97,100	--	--	--	62,800	31,032	NORTH DAKOTA
OHIO	49,539,700	19,952,800	13,521,200	--	9,976,000	4,188,300	--	1,901,400	13,214,900	OHIO
OKLAHOMA	15,370,000	610,000	10,021,896	250,000	700,000	700,000	3,088,104	--	4,104,880	OKLAHOMA
OREGON	13,374,525	7,665,151	2,913,534	392,796	806,063	1,090,136	--	507,845	1,287,235	OREGON
PENNSYLVANIA	40,200,000	20,800,000	14,900,000	--	2,000,000	2,500,000	--	--	6,500,000	PENNSYLVANIA
RHODE ISLAND	847,643	235,000	487,078	--	87,000	38,565	--	--	24,309	RHODE ISLAND
SOUTH CAROLINA	10,518,815	2,614,169	2,313,347	328,522	799,978	1,298,974	3,106,305	57,520	3,988,879	SOUTH CAROLINA
SOUTH DAKOTA	6,677,578	5,351,124	1,173,654	152,800	--	--	--	--	371,160	SOUTH DAKOTA
TENNESSEE	16,744,891	3,316,962	4,886,926	213,575	622,377	3,128,841	4,395,833	180,378	15,984,110	TENNESSEE
TEXAS	24,000,000	9,500,000	5,000,000	800,000	3,800,000	4,200,000	--	700,000	6,333,600	TEXAS
UTAH	3,150,000	2,000,000	1,150,000	--	--	--	--	--	150,000	UTAH
VERMONT	1,075,000	696,000	135,000	--	--	--	244,000	--	--	VERMONT
VIRGINIA	8,506,600	4,133,000	2,687,200	--	520,000	1,069,700	--	96,700	1,400,200	VIRGINIA
WASHINGTON	7,864,314	2,012,661	2,792,803	89,855	1,948,202	363,881	--	656,912	751,013	WASHINGTON
WEST VIRGINIA	12,359,400	6,477,700	3,532,500	--	1,647,300	1,301,900	--	--	4,294,800	WEST VIRGINIA
WISCONSIN	23,496,252	17,118,264	5,229,964	504,305	--	--	--	643,719	7,504,252	WISCONSIN
WYOMING	676,477	137,459	430,844	28,152	--	--	11,548	68,474	27,835	WYOMING
GRAND TOTALS	$639,814,606	$264,965,764	$196,573,516	$ 10,096,000	$ 74,032,348	$ 51,844,737	$ 22,315,117	$19,987,124	$141,098,123	GRAND TOTALS

REMARKS: THE DATA SHOWN HERE ARE PARTLY ESTIMATED IN SOME STATES, AND ARE THE ONLY AVAILABLE FIGURES OBTAINABLE BY THIS BUREAU.

NOTES: 1/ FIGURES IN PARENTHESES IN THIS COLUMN ARE APPARENT DEFICITS AND THE TOTAL IS THE NET UNEXPENDED BALANCE.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS

B.P.R.-F.A.A-1
M.- OCTOBER 1926 - A.

STATUS OF CURRENT FEDERAL AID ROAD WORK

FOR THE FISCAL YEAR ENDING JUNE 30, 1927

AS OF OCTOBER 31, 1926

STATES	BALANCE OF FEDERAL AID FUND AVAILABLE FOR NEW PROJECTS	* UNDER CONSTRUCTION			APPROVED FOR CONSTRUCTION			AMOUNT PAID STATES DURING FISCAL YEAR	COMPLETED AND PAID DURING FISCAL YEAR			AGREEMENTS NOW IN FORCE			P.S.& E. RECOMMENDED FOR APPROVAL BY DISTRICT ENGINEER			STATES
		FEDERAL AID	MILES ORIGINAL	MILES STAGE	FEDERAL AID	MILES ORIGINAL	MILES STAGE		FEDERAL AID	MILES ORIGINAL	MILES STAGE	FEDERAL AID	MILES ORIGINAL	MILES STAGE	FEDERAL AID	MILES ORIGINAL	MILES STAGE	
ALABAMA	$ 2,250,078.67	$ 2,809,565.96	282.4	4.8	$ 70,908.93	13.4		$ 321,674.87	$ 492,916.35	75.7		$ 1,865,385.81	131.4	4.8	$ 1,015,089.08	164.4		ALABAMA
ARIZONA	2,563,442.94	1,018,028.97	80.9					132,666.76	172,004.74	26.7		995,599.25	80.7		22,430.72	0.2		ARIZONA
ARKANSAS	1,006,253.36	2,089,640.28	284.6		580,750.55	89.4		421,767.16	262,461.46	38.9		2,142,277.28	299.5		528,113.55	74.5		ARKANSAS
CALIFORNIA	2,490,892.49	4,916,686.49	239.8	17.7	199,807.88	5.6		1,183,703.94	1,471,935.86	105.7		4,685,241.09	221.4	17.7	431,253.26	24.0		CALIFORNIA
COLORADO	1,933,303.20	2,666,676.46	246.7	15.8	199,837.34	24.3		537,475.82	398,706.82	29.1		1,844,193.86	194.1	1.9	1,022,319.94	75.9	13.9	COLORADO
CONNECTICUT	483,201.11	1,314,166.86	60.6		281,827.61	14.8		26,848.97	153,899.62	8.0		1,088,950.71	56.5		507,143.76	18.9		CONNECTICUT
DELAWARE	10,795.85	334,016.25	17.9		71,705.56	8.3		140,462.09	275,874.75	17.6		334,016.26	17.9		71,705.55	8.3		DELAWARE
FLORIDA	1,257,416.47	3,785,525.05	227.2	11.8	167,816.51	1.9	13.0	694,471.40	1,049,833.65	62.7		3,566,993.23	217.1	11.8	386,348.33	12.0	13.0	FLORIDA
GEORGIA	64,334.65	5,706,114.50	536.6	130.1	15,848.05	7.6		972,530.48	981,417.94	129.4		5,354,507.07	538.0	98.6	367,455.48	6.2	31.5	GEORGIA
IDAHO	245,992.23	1,808,258.53	195.2	11.3	346,287.73	60.4	0.3	569,860.14	277,975.81	18.9	8.0	1,586,325.29	165.2	11.3	567,220.97	90.4	0.3	IDAHO
ILLINOIS	3,389,073.13	4,413,190.03	328.7		428,978.44	30.6		211,371.43	980,960.66	68.1	2.0	1,891,956.32	136.5		2,950,212.15	222.8		ILLINOIS
INDIANA	672,759.63	8,223,878.57	502.5	11.6				1,332,803.79	1,135,591.61	71.0		7,776,661.28	473.3	11.6	447,217.29	29.2		INDIANA
IOWA	301,447.25	5,744,179.50	663.2	179.8	601,968.35	76.0	82.8	1,307,895.33	911,665.80	153.3	20.9	6,124,108.36	711.5	249.3	222,039.49	27.7	13.3	IOWA
KANSAS	373,645.52	5,236,974.47	746.6	0.1	1,027,403.41	126.0	4.9	803,463.95	235,898.36	48.9		4,999,404.58	715.2	1.3	1,264,973.30	155.4	3.7	KANSAS
KENTUCKY	596,315.38	3,716,021.58	382.8	63.4	282,008.29	33.5		404,819.97	126,381.50	9.1		3,156,064.27	361.3	40.2	842,965.60	65.0	23.2	KENTUCKY
LOUISIANA	452,494.99	1,861,498.23	188.5		621,640.40	45.7		450,208.72	192,034.39	18.7		1,827,110.50	167.6		656,029.13	66.6		LOUISIANA
MAINE	727,409.37	952,195.63	73.4		402,821.22	33.2		294,936.83	189,894.49	16.6		1,272,021.75	101.1		82,995.00	5.5		MAINE
MARYLAND	1.49	641,523.57	72.2		170,540.72	16.2		98,069.36				792,904.29	87.1		19,260.00	1.3		MARYLAND
MASSACHUSETTS	1,808,341.81	1,356,464.16	69.2		199,013.17	11.9		39,221.75	87,146.25	4.5		1,531,975.92	80.9		23,501.50	0.2		MASSACHUSETTS
MICHIGAN	1,908,612.04	6,227,830.93	397.4	25.7	190,152.69	7.8	9.2	1,338,783.16	188,717.04	13.6		5,764,666.96	341.6	34.9	653,317.76	63.5		MICHIGAN
MINNESOTA	69,904.37	2,583,500.00	340.6	76.1	49,000.00	128.7	42.2	1,946,085.77	1,304,359.07	250.5	84.8	2,556,500.00	356.9	76.1	76,000.00	112.5	42.2	MINNESOTA
MISSISSIPPI	288,958.82	3,831,403.27	396.9		185,185.26	37.5		646,441.19	407,936.55	49.9		3,086,969.22	345.6		929,619.31	88.9		MISSISSIPPI
MISSOURI	218,005.38	6,341,521.53	433.3	41.1	143,422.14	6.0	11.9	1,781,261.47	2,347,472.10	160.9	6.0	6,072,675.66	420.7	45.7	412,268.01	17.6	7.3	MISSOURI
MONTANA	4,413,726.56	1,679,352.17	162.4	14.7	506,109.37	99.1	1.6	503,952.58	487,231.02	56.4	30.1	2,081,492.41	252.0	16.3	103,969.13	9.5		MONTANA
NEBRASKA	1,644,275.19	6,760,495.70	1,448.3	717.3	262,795.00	62.3	20.3	1,062,637.44	493,466.59	103.6	28.3	6,755,991.47	1,466.6	730.9	267,299.23	44.0	6.7	NEBRASKA
NEVADA	303,413.28	1,983,504.16	266.5	26.6	69,095.79	11.5	5.6	331,363.76	1,308,267.18	146.1	5.1	1,823,419.62	261.2	32.1	229,180.33	16.9		NEVADA
NEW HAMPSHIRE	96,020.87	696,021.06	44.4					48,857.93				672,700.19	42.6		23,320.97	1.8		NEW HAMPSHIRE
NEW JERSEY	152,928.94	2,700,498.56	45.4		250,996.00	16.7		213,086.15	264,655.29	15.2		2,794,168.56	51.0		167,325.00	11.1		NEW JERSEY
NEW MEXICO	1,539,653.56	1,927,724.72	224.7		165,350.34	26.7						1,270,820.49	138.4		822,254.57	113.0		NEW MEXICO
NEW YORK	3,636,943.93	10,009,870.20	633.6		1,745,447.50	98.2	8.6	2,099,684.35	740,976.18	45.2		11,461,376.20	722.6		293,942.50	9.2	8.6	NEW YORK
NORTH CAROLINA		2,497,344.60	153.9	6.3	629,631.69	53.7		622,487.30	1,412,891.77	73.3	32.2	2,355,883.96	142.8	5.3	771,092.34	64.7		NORTH CAROLINA
NORTH DAKOTA	126,334.79	3,530,457.07	936.4	212.7	264,236.77	80.0	76.9	1,264,462.91	795,770.59	210.8	193.6	3,379,041.55	885.1	244.3	415,652.29	131.3	45.3	NORTH DAKOTA
OHIO	1,995,930.34	6,137,017.18	400.9	17.7	514,710.00	32.1		1,270,859.63	712,361.45	69.8		4,749,200.05	362.9	14.2	902,527.13	70.1	3.4	OHIO
OKLAHOMA	410,044.66	1,107,658.72	100.9	10.0	956,809.93	145.9	28.8	583,458.32	425,274.66	37.0	4.1	1,069,593.93	121.0	10.0	994,874.32	125.8	28.9	OKLAHOMA
OREGON	107,734.43	1,635,338.95	120.6		139,417.91	7.4	16.6	519,057.93	403,640.92	23.7		1,691,456.28	114.9	16.6	83,300.58	13.1		OREGON
PENNSYLVANIA	362,527.23	8,291,474.66	582.7		1,076,158.45	68.4		1,030,799.27	47,888.62	3.2		8,186,429.95	586.0		1,182,203.16	65.1		PENNSYLVANIA
RHODE ISLAND	459,209.94	326,130.00	21.8		209,880.00	13.9		333,747.28	113,520.00	7.6		514,276.00	34.3		21,735.00	1.4		RHODE ISLAND
SOUTH CAROLINA	43,413.51	2,550,512.36	198.4	14.7	42,921.58	10.3		598,263.51	398,353.63	54.0	6.9	2,465,512.35	186.3	14.8	127,921.58	22.4		SOUTH CAROLINA
SOUTH DAKOTA	144,900.21	1,925,242.26	657.3	107.4	24,278.39		22.9	709,173.08	468,642.17	163.6	47.0	1,864,666.27	653.8	97.3	84,954.38	3.5	43.0	SOUTH DAKOTA
TENNESSEE	298,914.83	3,857,158.99	238.1	58.1	399,784.45	42.6		1,041,936.96	448,148.71	34.9		3,588,387.68	233.4	58.1	668,656.78	47.2		TENNESSEE
TEXAS	2,071,014.71	7,560,903.80	710.6	112.5	2,170,333.77	122.2	150.1	1,721,179.61	1,363,924.00	228.8	10.9	6,889,660.52	720.2	50.4	2,941,577.05	112.6	212.2	TEXAS
UTAH	569,978.80	1,297,322.97	158.9		659,656.59	52.0		262,598.48	293,480.96	29.4		1,354,767.12	166.0		502,111.44	44.9		UTAH
VERMONT	352,224.07	874,948.98	42.3		13,104.61	0.7		271,664.14	10,529.93	0.1		816,438.91	38.8		72,614.68	3.2		VERMONT
VIRGINIA	77,966.35	2,556,461.06	166.7		27,640.23	6.4		1,107,104.14	453,729.26	34.6		2,453,047.24	158.2		131,054.06	14.9		VIRGINIA
WASHINGTON	174,624.05	1,810,600.00	52.9		261,000.00	46.7		507,612.72	116,642.49	8.7		1,994,600.00	82.8		77,000.00	16.8		WASHINGTON
WEST VIRGINIA	216,206.67	2,182,384.47	153.8	8.0	619,160.80	67.4	4.0	44,032.28	193,696.41	12.4		2,318,080.68	171.1	12.0	483,464.69	60.1		WEST VIRGINIA
WISCONSIN	2,524,341.18	4,201,185.98	391.9	14.7	169,917.50	13.7		16,606.53	50,664.71	9.3		3,881,239.62	370.8	7.9	499,863.76	34.9	6.9	WISCONSIN
WYOMING	393,935.51	1,707,301.34	205.8	66.3				364,722.42	424,150.00	80.3		1,640,228.53	200.5	66.3	67,072.81	5.3		WYOMING
HAWAII	787,517.82	312,635.18	15.9					14,958.54				312,635.18	15.9					HAWAII
TOTALS	$ 46,110,750.66	$ 156,698,405.74	14900.1	1975.3	$ 17,314,268.89	1865.7	499.7	$ 32,190,800.39	$ 26,072,881.13	2812.5	479.9	$ 148,688,319.40	14392.2	1971.6	$ 26,324,345.23	2363.6	503.3	TOTALS

* INCLUDES PROJECTS REPORTED COMPLETED (FINAL VOUCHERS NOT YET PAID) TOTALING: FEDERAL AID $43,398,999.98 MILES ORIGINAL 3,833.1 MILES STAGE 545.2

LEADERSHIP OF THE BUREAU NOW RECOGNIZED AT HOME AND ABROAD

UNDER THE CHAOTIC CONDITIONS WHICH EXISTED IN 1920 AND 1921, WHEN THE NECESSITY OF MAJOR CHANGES IN THE PREVIOUS FEDERAL-AID LEGISLATION WAS GENERALLY RECOGNIZED, THERE WERE SEVERAL NATIONAL ORGANIZATIONS WHICH HELD VIEWS OF THE CHANGES THAT SHOULD BE MADE IN WHICH THE BUREAU COULD NOT CONCUR. OUT OF THE DISCUSSION AND DEBATE OF THAT PERIOD THERE WAS FINALLY EVOLVED THE AMENDED LEGISLATION UNDER WHICH WE HAVE SINCE MADE SUCH SATISFYING PROGRESS.

IT IS POSSIBLE THAT AMONG THE ARDENT FRIENDS AND SUPPORTERS OF THE BUREAU THE OPINION IS STILL HELD THAT SOME OF THOSE ORGANIZATIONS WHICH AT ONE TIME DIFFERED WITH THE BUREAU AS TO THE POLICY TO BE PURSUED ARE STILL HOLDING TO DIVERGENT VIEWS. ON THE CONTRARY, THE BUREAU HAS, FOR SEVERAL YEARS RECEIVED EVERY ENCOURAGEMENT AND ALL POSSIBLE SUPPORT FROM THESE ORGANIZATIONS IN THE DEVELOPMENT OF THE POLICIES LAID DOWN IN THE LEGISLATION OF 1921.

THE CHIEF OF THE BUREAU IS PARTICULARLY DESIROUS THAT ALL MEMBERS OF THE ORGANIZATION SHALL BE FULLY COGNIZANT OF THE SPLENDID COOPERATION WE HAVE RECEIVED IN RECENT YEARS FROM THE U. S. CHAMBER OF COMMERCE, THE NATIONAL AUTOMOBILE CHAMBER OF COMMERCE, THE NATIONAL GRANGE, AND THE AMERICAN FARM BUREAU FEDERATION. THESE ORGANIZATIONS HAVE VIGOROUSLY UPHELD THE BUREAU. THEY ARE COMPLETELY IN HARMONY WITH THE POLICIES ESTABLISHED AND SATISFIED WITH THE PROGRESS THAT IS BEING MADE; AND THEY HAVE GIVEN ABUNDANT EVIDENCE OF THEIR DESIRE TO HOLD TO THE PRESENT POLICIES AND DEVELOP THEM IN ACCORDANCE WITH SCIENTIFIC RESEARCH AND A CRITICAL EXAMINATION OF THE EXPERIENCE WE ARE OBTAINING. NO RADICAL CHANGE IN THE PRESENT PLAN OF OPERATION UNDER THE FEDERAL HIGHWAY ACT IS NOW PROPOSED BY ANY NATIONAL ORGANIZATION. THE TENDENCY IS TO SUPPORT THE RECOMMENDATIONS OF THE BUREAU.

THE LEADERSHIP THUS RECOGNIZED IMPOSES UPON US THE NECESSITY OF SEEING TO IT THAT OUR POLICIES AND METHODS ARE THOROUGHLY SOUND AND WORTHY OF SUPPORT. THE CHIEF OF THE BUREAU IS ANXIOUS THAT EACH INDIVIDUAL SHALL FEEL THIS RESPONSIBILITY AND SHALL FEEL FREE TO MAKE SUGGESTIONS OR CRITICISMS OF A CONSTRUCTIVE CHARACTER TO THE END THAT WE MAY INCREASE THE PRESTIGE OF THE BUREAU IN THE MINDS OF THE PUBLIC.

ANOTHER RECENT DEVELOPMENT WHICH IS ESPECIALLY GRATIFYING AND WHICH HOLDS OUT AN OPPORTUNITY FOR THE BUREAU TO RENDER A SERVICE OF THE MOST IMPORTANT CHARACTER IS THE CONSTANTLY INCREASING NUMBER OF FOREIGN ENGINEERS WHO ARE COMING TO US AND TO THE STATE HIGHWAY DEPARTMENTS TO STUDY OUR ROAD PRACTICES. IN NO OTHER COUNTRY IN THE WORLD, OUTSIDE OF VERY RESTRICTED AREAS AROUND LARGE CITIES, HAVE ENGINEERS BEEN ABLE TO STUDY AND PLAN THE PROVISIONS THAT ARE NECESSARY FOR THE ACCOMMODATION OF A LARGE HIGHWAY TRAFFIC. THIS IS THE GREAT ADVANTAGE WHICH THE ENGINEERS OF THIS COUNTRY ENJOY.

IT IS ON THIS ACCOUNT, AND BECAUSE WE FEEL THAT WE HAVE SOMETHING OF DEFINITE VALUE TO GIVE, THAT THE BUREAU HAS INTERESTED ITSELF PARTICULARLY IN THE EXTENSION OF ITS INFLUENCE IN FOREIGN COUNTRIES. SINCE THE UNITED STATES HAS BECOME SUCH A TREMENDOUS CREDITOR NATION, WHATEVER WE ARE ABLE TO GIVE THAT WILL BE OF ASSISTANCE TO OTHER LESS DEVELOPED NATIONS AND RESULT IN A BETTER UNDERSTANDING OF OUR MOTIVES BY OTHER NATIONS LESS FORTUNATE WILL HELP TO ALLAY SUSPICION OF THE STRONG NATION. WE ARE DOING WHAT WE CAN TO ESTABLISH IN THE MINDS AND HEARTS OF INDIVIDUALS HOLDING HIGH POSITION IN OTHER COUNTRIES A FEELING OF RESPECT AND FRIENDSHIP FOR THE UNITED STATES. IN SO DOING WE BELIEVE THAT THE BUREAU OF PUBLIC ROADS IS HELPING IN AN EFFECTIVE WAY TOWARD THE SOLUTION OF THE LARGER PROBLEMS WITH WHICH THE GOVERNMENT AND THE NATION ARE CONFRONTED.